AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 218

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0001	26-Aug-2004		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
AFGHANISTAN ENGINEER DISTRICT US ARMY CORPS OF ENGINEERS KABUL APO AE 09356	W917PM	**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
	X	9A. AMENDMENT OF SOLICITATION NO. W917PM-04-R-0017
	X	9B. DATED (SEE ITEM 11) 20-Aug-2004
		10A. MOD. OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Amendment # one as per the attached.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	TEL: EMAIL:

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	26-Aug-2004

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

(End of Summary of Changes)

Afghanistan- Tajikistan Bridge Amendment 1 dated 26August 2004

Replace name to Pyandzh Bridge between Afghanistan and Tajikistan

***Replace Proposal Due Date* to September 27, 2004 on SF 1442 13. A, and any place else in document.**

Replace Place SF 1442 13. D to read 60 days (not 40).

***Insert Bid Schedule immediately after SF 1442*:**

SECTION 00100 – BIDDING SCHEDULE/INSTRUCTIONS TO OFFERORS

Pyandzh Bridge Between Afghanistan and Tajikistan

BID SCHEDULE

The Contractor shall provide a price for all items. The Government will evaluate the Contractor's entire proposal to determine which CLINs represent the best value to the Government. All items are "Lump Sum."

Item No.	Description	Amount
0001	Mobilization/Demobilization for Construction of the Afghanistan - Tajikistan Bridge	$_____
0002	Prepare Site Master Plan, Complete Site Grading and Drainage Plan, Temporary Camps Plan	$_____
0003	Clear Entire Site of all Mines and Unexploded Ordnance	$_____
0004	Provide Corps of Engineers Living and Office Facilities	$_____
0005	Design of the Afghanistan - Tajikistan Bridge and Abutments	$_____
0006	Construction of the Afghanistan - Tajikistan Bridge and Abutments	$_____
0007	Design and Construction of the Approach Roads to the Afghanistan – Tajikistan Bridge	$_____

0008 Perform entire site grading and site restoration $_____

Insert Table of Contents after Bid Schedule:

SECTION 00100 – BIDDING SCHEDULE/INSTRUCTIONS TO OFFERORS

Afghanistan- Tajikistan Bridge

Information for Offerors

Delivery Information

A. Proposal Checklist
B. Basis for Award
C. Inquires
D. Changes Made Prior to Date Set for Award
E. Proposal Format
F. Hand-Carried and Express Mail Proposals
G. Electronic Submission of Proposals

Clauses

52.204-6	Data Universal Numbering System (DUNS) Number (Oct 2003)
52.204-7	Central Contractor Registration (Oct 2003)
52.211-13	Time Extensions (Sep 2000)
52.214-34	Submissions of Offers in the English Language (Apr 1991)
52.215-1	Instructions to Offerors – Competitive Acquisition (Jan 2004)
52.232-3	Payment by Electronic Funds Transfer – Central Contractor Registration (Oct 2003)
52.232-38	Submission of Electronic Funds Transfer Information with Offer (May 1999)
52.233-2	Service of Protest (Aug 1996)
52.236-28	Preparation of Proposals – Construction (Oct 1997)
52.252.-1	Solicitation Provisions Incorporated by Reference (Feb 1998)
252.225-7041	Correspondence in English (June 1997)

Replace Headers and Footers in Section 00100 Bidding Schedule/Instruction to Offerors:

Header: (Left aligned)

Afghanistan- Tajikistan Bridge
Request for Proposals
Section 00100 BIDDING SCHEDULE/INSTRUCTIONS

Footer (Centered)

Section 00100 – Page __(#)

Replace "Information for Offerors" with the following:

Information for Offerors

This is a firm-fixed price construction contract for the design build of a bridge between Qezal Qala, Afghanistan and Nizhniy Pyanj, Tajikistan. This is a competitive solicitation open to anyone who wants to respond. The estimated value of design and construction is more than $US 10,000,000. The contract will be awarded to the offeror who represents the best value between Experience, Management Practice, Past Performance, Technical Capability, Use of Local Labor, and Price.

The Afghanistan Engineer District has rescheduled the Pre-Bid tele-conference for 7 September 2004. Firms desiring to attend can send representatives to either the Corps District Office in Kabul Afghanistan at 1730 hours (Kabul time) on the 7th or to the Conference Location (to be determined) in Winchester, Virginia, USA at 0800 hours EDT. Those desiring to attend the Winchester session should contact Mr. David Wong (phone 540-665-3918; or email david.c.wong@tac01.usace.army.mil) about a week before the meeting for the address and directions to the Pre-Bid tele-conference site.

The Corps will plan on assisting any contractor that wishes to participate in a site visit on August 17, although Offerors may wish to visit the bridge site along the Afghanistan-Tajikistan Border on their own. If you wish to enter the secured Border Zone on the Tajik side if the River independently or on August 17, you must forward your name, passport information (number and country of issue), and place and date of birth to Mr. Sharipov, with a copy to Mr. Walls, by August 30th. Mr. Sharipov will endeavor to obtain the necessary permissions from the Russian Border Zone guards for your visit. If you cannot obtain permissions, consider, with proper Visas, crossing the River on the Pyandzh ferries, and viewing the project site from the Afghan side.

Local contractor and vendor information will be available on August 18, 2004 in Dushanbe. Please contact Mr. Sharipov for further details on this. The information will be either a list of local firms or presentations by local firms.

For information related to visiting the bridge site or Tajikistan in reference to this project, specifically Visas, Letters of Invitation, and other important information, please contact Mr. Denis G. Sharipov (Sharipovdg@state.gov), back-up copy to Mr. Brian Walls (brian.e.walls@us.army.mil).

The period of performance is 730 days from the Notice to Proceed (NTP). If the Contractor exceeds the period of performance, s/he risks incurring liquidated damages, $5367.00, for each day the period of performance is exceeded.

The point of contact for this solicitation is Contracting Officer Sherry F. Gaylor. Questions on this solicitation can be emailed to Sherry.F.Gaylor@tac01.usace.army.mil before close-of-business on the 10th of September.

Delete Section: "Delivery Information" at bottom of page 3.

Replace "C. Inquiries" with the following:

Inquiries concerning this solicitation document shall be emailed, before the close-of-business on the 10th of September 2004, to the issuing office – U.S. Army Corps of Engineers, Afghanistan Engineering district, ATTN: CEAED-CT/Sherry Gaylor. Ms. Gaylor's email address is: Sherry.F.Gaylor@tac01.usace.army.mil.

Answers to questions shall be provided to all offerors being solicited. Offerors are instructed specifically to contact only the solicitation issuing office in connection with any aspect of the requirement prior to contract award.

Replace Headers and Footers in Section 00600 Representations & Certifications:

Header: (Left aligned)

Afghanistan- Tajikistan Bridge
Request for Proposals
Section 00600 REPRESENTATIONS & CERTIFICATIONS

Footer (Centered)

Section 00600 – Page __(#)

Replace Headers and Footers in Section 00700 Contract Clauses:

Header: (Left aligned)

Afghanistan- Tajikistan Bridge
Request for Proposals
Section 00700 CONTRACT CLAUSES

Footer (Centered)

Section 00700 – Page __(#)

Insert into Section 00700 the following clause:

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

a) Definition. "Contracting Officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the Contracting Officer to perform specific technical or administrative functions.

b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

Move Clause "52.211.12 Liquidated Damages – Construction (Sep 2000)" from after "Section 01525 SAFETY and Occupational Health Requirements" to this "Section 00700 Contract Clauses"

Move "Section 00800 Special Contract Requirements" to before "Section 01010 Scope of Work."

Replace Headers and Footers in Section 00800 Special Contract Requirements:

Header: (Left aligned)

Afghanistan - Tajikistan Bridge
Request for Proposals
Section 00800 SPRECIAL CONTRACT REQUIREMENTS

Footer (Centered)

Section 00800 – Page __(#)

Replace all Division 1 Specifications (Section 01010, Section 01015, Section 01060, Section 01321, Section 01335, Section 01415, Section 01420, Section 01450, Section 01500, and Section 01525) with the following:

TABLE OF CONTENTS

SPECIFICATIONS

**DESIGN AND CONSTRUCTION
OF THE
AFGHANISTAN-TAJIKISTAN BRIDGE**

The following additional contract documents are located at:

http://www.bakergis.com/a-t_bridge/

(Note that there is an “underline” between the “-t” and “bridge in this web address)

"Final Geotechnical Information Research Report for Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007, Task Order 0006, January 2004."

“Geotechnical Engineering Report, Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014, August 2004".

“Concept Design Analysis Report, Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014, August 2004.”

“Afghanistan-Tajikistan Bridge, Shir Khan, Afghanistan to Nizhniy Pyandzh, Tajikistan. 35% Design Submittal”.

* * * *

SECTION 01010

SCOPE OF WORK

DESIGN AND CONSTRUCTION OF THE AFGHANISTAN-TAJIKISTAN BRIDGE

1. General:

Contractor shall design and build a bridge across the Pyandzh River near Qezal Qela, Afghanistan and Nizhniy Pyandzh, Tajikistan as shown in the documents (“c.” and “d.”) below. Documents “a.” and “b” are related to the work and are provided FIO (for information only). All four documents were prepared by the design firm, Michael Baker Jr., Inc. (Baker) under contract DACA78-02-D-0007 with the U.S. Army Corps of Engineers, Transatlantic Programs Center.

The documents are:

a. "Final Geotechnical Information Research Report for Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007, Task Order 0006, January 2004."

This report (a.) contains mostly Geotechnical Research data.

b. "Geotechnical Engineering Report, Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014, August 2004".

c. “Concept Design Analysis Report, Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014, August 2004.”

d. “Afghanistan-Tajikistan Bridge, Shir Khan, Afghanistan to Nizhniy Pyandzh, Tajikistan. 35% Design Submittal”.

This document (d.) consists of the 35% design drawings.

The reports and drawings can be viewed and downloaded from:

http://www.bakergis.com/a-t_bridge/

Note: There is supposed to be an underlined space between the “-t” and “bridge” in the above website address.

The Contractor shall also construct connecting roads from the bridge to the Afghan road at Sher Khan Bander, Afghanistan and to the Tajik road from Nizhniy Pyangzh to Dusti, Tajikistan, again as shown in the accompanying documents and drawings listed above. The two lane vehicular bridge, with pedestrian walkway, and the access roads and approach ramps will involve twelve spans totaling approximately 672 meters, eleven piers, two abutments, and connecting roads of just under two kilometers. All exposed steel on the bridge shall be “weathered steel.” As there will be roadway and navigation lighting

on the bridge, the Contractor shall connect a line from the nearby (approximately 2 kilometers) transformer to a new transformer in the vicinity of the bridge.

The Contractor shall begin work within 10 calendar days, and mobilize and begin physical construction of the bridge foundations within 100 calendar days of Notice to Proceed (NTP). The Contractor shall complete all other work and have the bridge and access roads ready for traffic flow within 24 months after NTP.

All design and construction activities shall be in compliance with the requirements of the preceding Contract Clauses and with all provisions of the following Specification Sections. These Sections are an integral part of this Request for Proposals:

Section 01015: TECHNICAL REQUIREMENTS
Section 01060: SPECIAL REQUIREMENTS
Section 01321: DESIGN-BUILD NETWORK ANALYSIS SCHEDULES (NAS)
Section 01335: SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECT
Section 01415: METRIC MEASUREMENT
Section 01420: SOURCES FOR REFERENCED PUBLICATIONS
Section 01450: DESIGN AND CONSTRUCTION QUALITY CONTROL
Section 01500: TEMPORARY CONSTRUCTION FACILITIES
Section 01525: SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

- End of Section –

SECTION 01015

TECHNICAL REQUIREMENTS

1. GENERAL

1.1 The Contractor's design and construction must comply with technical requirements contained herein. The Contractor shall provide design and construction using the best blend of cost, construction efficiency, system durability, ease of maintenance and environmental compatibility.

1.2 These design and product requirements are minimum requisites. The Contractor is encouraged to propose alternate design or products (equipment and material) that are more commonly used in the region; will be equally or more cost effective or allow for more timely completion, but furnish the same system durability, ease of maintenance and environmental compatibility. The Contractor will be required to submit information as requested by the Contracting Officer to make a comparison of the proposed alternate. All variations must be approved by the Contracting Officer.

1.3 NOT USED

1.4 LIMITATION OF WORKING SPACE

The Contractor shall, except where required for service connections or other special reasons, confine his operations strictly within the boundaries of the site. Workmen will not be permitted to trespass on adjoining property. Any operations or use of space outside the boundaries of the site shall be by arrangement with all interested parties. It must be emphasized that the Contractor must take all practical steps to prevent his workmen from entering adjoining property and in the event of trespass occurring the Contractor will be held entirely responsible.

1.5 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

1.6 SPECIFIC REQUIREMENTS

These Technical Requirements provide specific requirements for the major features of work. As a minimum the design documents shall consist of full design drawings, specifications and a design analysis. The contractor shall provide a full design and construction using the documents listed in section 01010 SCOPE OF WORK and in accordance with the requirements of this section. The specifications prepared by the contractor shall be prepared in accordance with section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT. The contractor shall edit the specifications using the guidance provided in the documents in section 01010 SCOPE OF WORK and these technical requirements.

2. SITE DEVELOPMENT

2.1 GENERAL REQUIREMENTS

The topographic, hydrographic surveys, geotechnical investigations and concept design necessary to fully design and construct the access roads and bridge are included in the documents referenced in section 01010 SCOPE OF WORK. The contractor shall use all the information provided in those documents and proceed to complete the design and construct the project.

2.2 Major Features

The project includes the following major features of work:

a) Design and construct about 2.2 kilometers of paved access roads, approximately 1.3 kilometers in Afghanistan and 0.9 kilometers in Tajikistan.

b) Design and construct a vehicular and pedestrian bridge across the Pyandzh River as described in the various sections of the contract documents, including double painted lines separating the lanes.

2.3 Specific Site Development Requirements

The contractor shall provide a full design for all site development features of the project such as:

a) Grading: shall include excavation, embankments and backfilling for roads and bridge work.

b) Access Roads: Roads shall be two lane roads with 0.7 meter shoulders, each lane shall be 3.60 meters wide. The roads shall be crowned at 2% and include as a minimum a 280 mm thick 80 CBR gravel base course and 50 mm bituminous surface course over a 50mm intermediate bituminous course. The final design thicknesses and compaction requirements shall be based on the findings of the geotechnical investigations and the data provided in section 01010 SCOPE OF WORK. Rigid pavement can be investigated as an alternate option for the construction of the roads. If a contractor elects to use rigid pavement, it shall be designed using the traffic loads shown in the documents listed in section 01010 SCOPE OF WORK.

c) Specifications: Final specifications for all civil engineering items of work shall be edited versions of all applicable UFGS Division 02-Site construction as indicated in section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT.

2.4 Bridge and Road alignment

The bridge and road vertical and horizontal alignments are shown in the documents listed in section 01010 SCOPE OF WORK and are not to be changed in any way.

2.5 Demolition

All known items to be demolished are shown in the drawings. Demolition shall include foundations and the structures in their entirety. Active utilities that may interfere with the road construction shall be protected and kept in operating condition. Overhead power lines that may interfere with truck traffic shall be raised to meet minimum United States Department of Transportation Standards.

3. ARCHITECTURAL – NOT USED

4. STRUCTURAL.

4.1 General. Contractor shall verify that concept design for bridge, as shown in the reference documents of section 01010 SCOPE OF WORK, is structurally acceptable. If determined to be acceptable, this concept design shall be used to finalize the structural design for the bridge. All the superstructure structural steel shall be weathered steels meeting ASTM (American Society for Testing and Materials) A242/A242M, Type 1 or ASTM A588/ A588M or a steel designation approved equal. Bolts, nuts and washers for bolted connections for structural steels shall be hot-dip galvanized.

The bridge features established in the reference documents of section 01010 SCOPE OF WORK, that shall be incorporated without any modification in the final design for the bridge are as follows:

1. Horizontal dimensions and vertical alignment elevations
2. Bridge width and top of deck elevations
3. Lane configurations
4. Pier heights
5. Locations of abutments and all pier supports

4.1.1 Design. Bridge design shall be in accordance with the American Association of State Highway Code, 17TH Edition-2002 (AASHTO Code) and applicable US standard codes. All bridge structural elements shall be designed to support safely all loads without exceeding the allowable stresses for the materials of construction in the structural members and connections. Design shall be performed and signed by a registered professional engineer. Calculations shall be in English units of measurements with results converted into metric equivalents shown in parenthesis.

The design analysis shall include basis of design, detailed calculations and any additional information required to describe the final design.

4.2 Design Loads. The bridge shall be designed for all the applicable design loads and load combinations as defined by the AASHTO Code.

4.2.1 Dead Loads. The dead load shall consist of the weight of the entire structure, including the roadway, sidewalks, car tracks, pipes, conduits, cables, and other public utility services.

4.2.2 Live Loads. The design live loads shall be Vehicular- HS25 and the alternate military loading.

4.2.3 Wind Loads. The design for wind loads shall be for a base wind velocity not less than 160 kilometers per hour (100 miles per hour).

4.2.4 Seismic Loads. The design for seismic loads shall use an acceleration coefficient for the site not less than A= 0.5, an importance classification, IC= I (Essential bridge) and soil profile type will be based in soil information obtained from reference documents of section 01010 SCOPE OF WORK.

4.2.5 Force of Stream Loads. The design force of stream current on piers shall be for the magnitude of flowing water velocity obtained from hydraulic study from reference documents of section 01010 SCOPE OF WORK.

4.2.6 Other Loads. Structure shall be designed to carry other loads, when they exist, such as follows: longitudinal forces, centrifugal forces, thermal forces, uplift, earth pressure, buoyancy, shrinkage stresses, rib shortening, erection stresses, ice, current pressure, and provisions shall be made for the transfer of forces between the superstructure and substructure to reflect the effect of friction at expansion bearings or shear resistance at elastomeric bearings.

4.3 Materials and Design Stresses. AASHTO Code shall govern materials and design stresses used for structural design.

4.4 Foundations. Foundation design for bridge substructure shall be based in the findings for the subsurface conditions at the site, obtained from the reference documents of section 01010 SCOPE OF WORK and paragraph 5.0 Geotechnical. Final design shall consider liquefaction along the riverbank and possibility of pier and abutment foundation scouring by river flow.

5. GEOTECHNICAL

Available geotechnical information/data are contained in two reports. These reports are available for inspection but are for INFORMATION ONLY. See Section 01010 SCOPE OF WORK, referenced documents for location of these geotechnical reports.

The first report is entitled "Final Geotechnical Information Research Report for Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007, Task Order 0006, January 2004." This report contains mostly Geotechnical Research data.

The second report is entitled "Geotechnical Engineering Report, Afghanistan-Tajikistan Bridge Over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014, August 2004". This report contains site specific geotechnical information. Information contained in this report

is field exploration and testing results, laboratory testing results, evaluations, recommendations, and descriptive supporting text.

Again, the above referenced reports are FOR INFORMATION ONLY. The locations of explorations performed at the site are shown in the documents referenced in Section 01010 SCOPE OF WORK and the exploration logs are provided as Appendix A to Section 01060 SPECIAL REQUIREMENTS.

The foundation/geotechnical information contained in the documents referenced in Section 01010 SCOPE OF WORK is a result of the above geotechnical investigations/ reports. If the contractor elects to use this information, the contractor is responsible for verifying the information. This is a design construct project and the contractor is responsible for the design and construction of this project.

6. MECHANICAL – Not Used

7. PLUMBING – Not Used

8. FIRE PROTECTION – Not Used

9. ELECTRICAL:

9.1 Scope of Work.

9.1.1 Contractor shall prepare a 100% design based upon the documents referenced in Section 01010 SCOPE OF WORK. The 100% design shall provide all information needed for the construction of the electrical system for the Afghanistan-Tajikistan Bridge project. Work shall include but not limited to construction of site primary power distribution system and the secondary power and lighting system. Contractor shall field investigate to extend the electrical power line from the primary voltage side of the existing transformer (Rated at 11KV) located in Tajikistan, approximately two kilometer away from the proposed bridge, to a new transformer at the bridge. Contractor shall coordinate with the Contracting Officer to determine the proper location for the new transformer at the vicinity of the proposed bridge. Transformer size shall be based on required power, and lighting for the proposed bridge, any navigation lighting/pier lighting required and any other future expansion such as entry control point(s), border guard stations, etc. Navigation lighting/pier lighting shall be provided for the navigation channel between pier 9 and pier 10. All of the system shall be designed for ultimate demand loads plus 25% spare capacity.

Secondary power distribution system shall be 380/220 volts, 3-phase, 4-wire, 50 hertz. Contractor shall provide lighting for the bridge and the piers. This includes design, construction, all necessary labor, equipment, and material for a fully functional system. Lighting system for the bridge shall consist of pole mounted high-pressure sodium light fixture with minimum two foot-candle (20 Lux) illumination level. Provide one weatherproof electrical outlet on every other light pole, at least one meter above finished ground. Electrical outlets shall be of the type most commonly used in the region. Contractor shall also provide all necessary navigation/pier lighting as required. Contractor shall provide a minimum of 4-100 mm (4 inches) rigid galvanized steel

empty conduit attached to the bridge and terminated into the manholes at either edge of the bridge. Manholes shall be a minimum size of 2.4M x 2.4M x 2.4M. Manholes shall be provided with cable pulling irons and a ground rod. Ground rod shall be galvanized steel, 3M long and 19mm in diameter. In the event that the existing high voltage feeder is installed overhead, the contractor shall extend the new primary distribution system in a similar manner and install pole mounted transformer (in accordance with local codes), otherwise, the primary distribution system shall be in concrete encased duct-bank system.

9.2 Applicable Standards.

a. National Fire Protection Association, NFPA 70 (National Electric Code, 2002 Edition).

b. Design shall be in metric units.

c. Conflicts between criteria and /or local standards shall be brought to the attention of the Contracting Officer for resolution. In such instances, all available information shall be furnished to the Contracting Officer for approval.

9.3 Material:

9.3.1 General: Use of local material is acceptable; however, all material and enclosure equipment used shall be in compliance with the National Electrical Manufacturer's Association (NEMA) or the International Electro-Technical Committee (IEC) standards. Material and equipment installed under this contract shall be for the appropriate application.

9.3.2 Standard Product: All material and equipment shall be a standard product of a manufacturer regularly engaged in the manufacture of the product and shall essentially duplicate items that have been in satisfactory use for at least two (2) years prior to bid opening.

9.4 Design Conditions

All equipment shall be rated and designed for 40 Degree Centigrade.

9.5 Restrictions

Aluminum conductors shall not be specified or used. Conductor jacket or installation shall be color coded to satisfy local utility requirements.

9.6 Design Requirements:

9.6.1 Raceways: Exterior raceways (duct banks and conduits) shall be installed at a slope towards a manhole or hand-hole to avoid collection of water in the raceway. Conduit shall be PVC, thin-wall for concrete encasement and hard-wall (Schedule 40) for direct burial. Direct buried conduit shall only be installed for street lighting circuits. Direct buried conduits shall be encased in concrete, when under paved areas or under road crossings. High voltage cables shall be installed in conduit no less than 100mm (4 inch) in diameter. Secondary cable shall be

installed in conduit no less than 50mm (2 inch). Duct bank conduits shall be cleaned with a wire mandrel prior to the installation of cables. Minimum of one spare conduit shall be provided in all duct-banks and capped at both ends. Top of the duct bank shall be below the frost line or a minimum of 24 inch (600mm) below grade. Direct buried conduit shall be installed 800mm (32 inch) below grade.

9.6.2 Pad-Mount Transformer Stations: Pad-mount transformers shall be strategically located close to the loads. Dedicated transformer stations shall be provided for large loads. Primary side Ring-Main-Units and secondary side Distribution Cabinets shall be provided with all pad-mount transformers. Distribution cabinets shall be provided with sufficient circuit breakers for feeders to individual building and for street/area lighting. Service entrance feeders to the buildings shall be installed in thin-wall PVC concrete encased conduit. Minimum of one spare conduit shall be provided in all duct banks. All pad-mount transformers, distribution cabinets and high voltage tap/tie switches shall be installed on 300mm (12 inch) thick reinforced concrete pads. Pads shall protrude 150mm (6 inch) above finished grade.

9.6.3 Cables: All primary and secondary voltage cables shall be copper, designed for underground installation and shall have appropriate high voltage and secondary voltage ratings. All high voltage feeders shall be designed to carry a minimum load of 5 MVA (5000KVA) each. High potential tests shall be performed on all high voltage cables per industry standards prior to energizing cables. Cables with defective insulation shall be replaced in its entirety and NOT repaired.

9.7 Grounding and Bonding

Grounding and bonding shall comply with the requirements of NFPA 70. Underground connections shall be exothermal welded. All exposed non-current carrying metallic parts of electrical equipment in the electrical system shall be grounded. Insulated grounding conductor (separate from the electrical system neutral conductor) shall be installed in all feeder and branch circuit raceways. Grounding conductor shall be green-colored, unless the local authority requires a different color-coded conductor. Ground rods shall be copper-clad steel. Ground resistance shall not exceed 25 ohms when measured less than 48 hours after rainfall.

9.8 Enclosures

Enclosures for exterior and interior applications shall be NEMA Type 3R (IEC Classification IP14) and NEMA Type 1 (IEC Classification IP10), respectively.

-- End of Section --

SECTION 01060

SPECIAL REQUIREMENTS

PART 1 GENERAL

1.1 PRECONSTRUCTION CONFERENCE

1.1.1 Schedule of Meeting

At the earliest practicable time, prior to commencement of the work, the Contractor and any Subcontractors whose presence is necessary or requested, shall meet in conference with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to the details of the administration and execution of this contract. This will include but not necessarily be limited to the Contractor's Quality Control (CQC) Program, the Contractors Accident Prevention Program, submittals, correspondence, schedule, access to the work site, security requirements, temporary facilities and services, hazards and risks, working after normal hours or on weekends or holidays, assignment of inspectors, representations, special requirements, and other aspects of this project that warrant clarification and understanding.

1.1.2 Meeting Minutes

It shall be the responsibility of the Contractors CQC System Manager to prepare detailed minutes of this meeting and submit same to the Contracting Officer for approval within three (3) work days. Any corrections deemed necessary by the Contracting Officer shall be incorporated and resubmitted within two (2) calendar days after receipt. Upon approval of the minutes by the Contracting Officer, the Contractor shall distribute the minutes to all parties present or concerned.

1.2 AREA USE PLAN

See Specification Section 01500 TEMPORARY CONSTRUCTION FACILITIES.

1.3 CONTRACTOR'S MOBILIZATION AREA

The Contractor will be permitted to use the area designated on the Site Plan Drawings, reference “d.” in Section 01010 SCOPE OF WORK, and any additional area approved by the Contracting Officer, for his construction equipment and plants, shops, warehouses, offices, etc. See Section 01500 TEMPORARY CONSTRUCTION FACILITIES, for detailed requirements.

1.4 CONTRACTOR'S OFF SITE MOBILIZATION AREA

The Contractor may provide, furnish, operate and maintain facilities for his batching operations (e.g. concrete, asphalt, etc.) major shops and living facilities for his workers in an area off site. The

specific area must be located such that no new contractor facilities are within the "Inhabited Building Clear Zone" (approximately 1355 meters, radius) surrounding ammunition/explosives storage and/or handling areas. The Contractor must submit his desired site location to the Contracting Officer for approval. All utilities will be the responsibility of the Contractor and shall be provided at no cost to the Government. On completion of the contract, all facilities shall be removed by the Contractor and shall be disposed of in the manner directed by the Contracting Officer. The site shall be cleared of construction debris and other materials and the area restored to its original condition.

1.5 RESPONSIBILITY FOR PHYSICAL SECURITY

Prior to mobilization, the Contractor shall submit his proposed means of providing project security to prevent unauthorized access to equipment, facilities, materials and documents, and to safeguard them against sabotage, damage, and theft. The Contractor shall be responsible for physical security of all materials, supplies, and equipment of every description, including property which may be Government-furnished or owned, for all areas occupied jointly by the Contractor and the Government, as well as for all work performed.

1.6 PROJECT SIGN

Within thirty (30) calendar days after receipt of Notice to Proceed, the Contractor shall furnish and install a project sign at or adjacent to the project site where directed by the Contracting Officer on the Tajik-side of the River. The sign shall be in the English, in the Russian, and in Tajik languages. The sign shall be constructed with a face sheet of exterior grade plywood, 4-feet high by 8-feet wide by one-half-inch thick, mounted on suitable framing which shall be approved by the Contracting Officer. All parts of frames and signs shall be given a prime coat of exterior oil base paint and a minimum of two (2) finish coats of white semi-gloss paint. The Contracting Officer will supply the Contractor with all information to be displayed on the sign, i.e. wording, letter size, pictorial display, etc. The Contractor shall maintain the sign in good condition, as determined by the Contracting Officer, throughout the project construction period. On completion of the work under this contract, the sign shall be removed by the Contractor and disposed of as directed by the Contracting Officer. No direct payment will be made for the sign.

At some possible future date, fifteen (15) calendar days after notice from the Contracting officer, the Contractor shall install a similar sign where directed by the Contracting Officer on the Afghan side of the River. All other requirements of the above paragraph are applicable. The contractor shall not install the Afghan-side sign without permission of the Contracting Officer.

1.7 DUST CONTROL

The Contractor shall be required to control objectionable dust in the work areas, access roadways, and haul roads by means of controlled vehicle speeds or dust palliatives. Vehicles transporting sand, cement, gravel or other materials creating a dust problem shall be covered, as directed by the Contracting Officer, or in accordance with local Laws, codes, and regulations.

1.8 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.9 PHOTOGRAPHIC RECORD OF DESIGN & CONSTRUCTION

The Contractor shall make a photographic record of the project. Photos shall be full color, digital, 5 mega-pixels or greater resolution or 35 mm film. A professional photographer shall not be required unless the quality of the photos is less than satisfactory to the Contracting Officer.

1.9.1 Daily, Fixed-Position Photo of Bridge – Tajik Side

The Contractor shall, at a location approved by the Contracting Officer, establish a semi-permanent post, tri-pod, or other support for a fixed camera mount on the Tajik bluff overlooking the River. The support shall be positioned so that a picture taken from the mounted camera would include an unobstructed view of the entire span of the bridge. As needed, the Contractor shall install barricades, bollards, or fencing to protect the photo station.

The Contractor shall have taken, at the same time every day, a like picture of the bridge site from the camera affixed to the mount. The camera, and all camera settings, shall the same so that the same, identical view is recorded. This daily series of photos shall be started in the first few days of mobilization to the site and continue every day until all the contract work is completed. A month’s photos shall be saved/written to CD and submitted with the monthly Request for Payment or submitted by the 10th day of the month after the pictures were taken, whichever is earlier. Some photos of this series should be posted to the Contractors FTP site for the Bridge.

1.9.2 Daily, Fixed-Position Photo of Bridge – Afghan Side

The Contractor shall, at a location approved by the Contracting Officer, establish a semi-permanent post, tri-pod, or other support for a fixed camera mount on the Afghan bluff overlooking the River. The support shall be positioned so that a picture taken from the mounted camera would include an unobstructed view of the entire span of the bridge from a view close to 180 degrees different from the view in the daily photo taken from the Tajik side. As needed, the Contractor shall install barricades, bollards, or fencing to protect the photo station.

The Contractor shall have taken, at the same time every day, a like picture of the bridge site from the camera affixed to the mount. The camera, and all camera settings, shall the same so that the same, identical view is recorded. This daily series of photos shall be started in the first few days of mobilization to the site and continue every day until all the contract work is completed. A month's photos shall be saved/written to CD and submitted with the monthly Request for Payment or submitted by the 10th day of the month after the pictures were taken, whichever is earlier. Some photos of this series should be posted to the Contractors FTP site for the Bridge.

1.9.3 Photo Records of Key Events, Meetings, Important Activities, Etc.

The contractor shall have taken a photo record of all project related activities during the period of contract. Photograph every definable feature of work, every important and some routine activities, all distinguished visitors, and all significant events. Add action shots of workers and key personnel, inclusive of both design and construction. Select no less than fifty of the best of the photos taken each calendar month, save/write to CD and submit with the monthly Request for Payment or submit by the 10th day of the month after the pictures were taken, whichever is earlier. Some photos of this series should be posted to the Contractors FTP site for the Bridge. This series of photos need not start before Date of Award.

1.9.4 Photo Titles and Identification

Contractor shall submit for Approval, a schema for numbering and/or labeling of all the photos submitted to the Contracting Officer. At minimum, the Contractor should employ a file name beginning with (or otherwise keyed to) the number "yymmdd" or "yyyymmdd" (e.g., 041112 for the 12th of November 2004) to facilitate cataloging and sorting of photo images.

1.9.5 Within 15 days of NTP, the Contractor shall summit for approval, his Project Photography Plan. The Contractor's plan shall detail the make and model of the camera(s) to be used, the mounts and location for the daily fixed-position photos, and the method for numbering/titling the numerous images, and the personnel who will be assigned responsibility for this task.

1.9.6 Photographic Prohibitions

The Contractor shall not take pictures (without the permission of the Contracting Officer) of the Tajik Border Zone outside of the fenced project areas, of any Russian Border Guards or their equipment.

1.10 DIGGING PERMITS

1.10.1 Requirements for Digging Permits

Prior to the start of any work activity which requires excavation within the current project area, the Contractor shall obtain a digging permit.

1.10.2 Requests for Digging Permits

Requests for Digging Permits shall be submitted through the Contracting Officer a minimum of seven (7) days prior to the start of the work activity covered by the permit. The request for a Digging Permit shall include a narrative description of the work to be performed and a detailed map of the area of the excavation clearly marking the location of all known utilities or other obstructions. If the work activity covered by the Digging Permit request also requires a utility outage, a separate request for the outage shall be submitted in accordance with the paragraph entitled CONNECTIONS TO EXISTING UTILITIES.

1.10.3 Preparation of Requests for Digging Permits

Prior to submitting a request for a Digging Permit, the Contractor shall carefully review the area to be excavated to determine the location of existing and/or temporary utilities and other obstructions. The Contractor will review available drawings and will conduct a visual inspection of the site. The Contractor will utilize underground utility detecting devices such as metal and cable detectors to determine the location of existing utilities. All utility lines found shall be clearly flagged or marked and the location of the utility shall be shown on the drawing to be submitted with the request for Digging Permit.

1.10.4 Existing Underground Utilities

The Contractor shall exercise utmost care in researching locations of existing utilities and reducing damage to existing utilities. Any utilities damaged by the Contractor shall be promptly repaired by the Contractor. The Contracting Officer will review and approve any proposed repairs. Any damage to existing utilities will be immediately reported to the Contracting Officer..

1.11 CONNECTIONS TO EXISTING UTILITIES

1.11.1 General

Any outage of any utility service shall be requested in writing at least fifteen (15) days in advance of the date requested for the commencement of the outage. The Contractor shall provide a request, detailing the type of outage needed (water, sewer, electrical, steam, etc.), the time needed to perform the work, the reason for the outage, and the known affected facilities. The Contracting Officer shall be contacted prior to the outage to confirm the time and date. If the Contractor fails to initiate work at the approved time, the Contracting Officer may cancel the approved outage and may direct the Contractor to resubmit a new request. No part of the time lost due to the Contractors failure to properly schedule an outage shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

1.11.1.1 Performance of Work During Non-Standard Hours

To minimize outage impact to the service of others, all outages shall be scheduled on weekends or from 2100 - 0530 hours on week days. The period proposed for performance of the outage shall include sufficient contingencies to preclude impact to the peak working hours 0530 – 1800 hours during the work week.

1.11.1.2 Exterior Night Lighting

Exterior night lighting shall be provided in conformance with EM-385-1-1 entitled Safety and Health Requirements Manual.

1.11.2 Existing Underground Utilities

The Contractor shall exercise the utmost care in researching locations of existing utility lines by implementing control measures to eliminate, or reduce to a level acceptable to the Contracting Officer, the chance of damaging or destroying existing utilities.

1.11.2.1 Use of Underground Utility Detecting Device

Prior to any excavation, a metal and/or cable detecting device shall be used along the route of the excavation. All underground utilities discovered by this method will be flagged a minimum distance of one-half (1/2) meter on each side of the location.

1.11.2.2 Hand Excavation

Hand excavation methods and special supervisory care shall be used between any flagged markers, in areas of known or suspected hazards, and in areas known or suspected to have multiple and/or concentrated utility lines or connections.

1.11.3 Repair of Damaged Utilities

The Contractor shall be responsible to repair any utilities damaged by him. The method of repair and schedule for performance of the repair shall be coordinated with, and subject to the approval of, the Contracting Officer. The repair work and any temporary work required to keep the system operational while repairs are being completed, shall be performed at no cost to the Government.

1.12 WATER (CONTRACTOR PROVIDED)

The Contractor shall provide and maintain water at his own expense for his use for construction and domestic consumption, and shall install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Before final acceptance of systems, or

facilities, all temporary connections and piping installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

Local authorities have told Corps personnel that River water, filtered of its very heavy sediment load, was suitable for showering, plumbing, laundry, etc.

The Contractor shall supply bottled water for drinking and for cooking.

1.13 NOT USED.

1.14 ELECTRICITY (CONTRACTOR PROVIDED)

Electrical service is not available for use under this contract. Therefore all electric current required by the Contractor shall be the responsibility of the Contractor, furnished at his own expense. All temporary connections for electricity shall be subject to the approval of the Contracting Officer and shall comply with Corps of Engineers manual EM 385-1-1 entitled Safety and Health Requirements Manual. All temporary lines shall be furnished, installed, connected and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer. Before final acceptance of systems, or facilities, all temporary connections installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

1.15 NOT USED.

1.16 USE OF EXPLOSIVES

The Contractor shall make necessary arrangements as may be required by applicable Afghan or Tajik codes, rules, regulations and laws and shall be responsible for compliance therewith for all phases of blasting operations. When blasting is required for removal of rock or other material, the Contractor shall notify the Contracting Officer prior to application for any use of explosives and take all necessary precautions for the protection of individuals and property exposed to his operation.

1.16.1 Handling, Storage, and Use of Explosives

The handling, storage, and use of explosives shall be governed by the applicable provisions of the following: the "BLASTING" section of the Corps of Engineers Manual EM 385-1-1, entitled Safety and Health Requirements Manual, a copy of which may be obtained from the Contracting Officer's Representative at the jobsite, and Technical Section 02201 entitled BLASTING

1.17 NOT USED.

1.18 WORK OUTSIDE REGULAR HOURS

If the Contractor desires to carry on work outside regular duty hours, or on holidays (including the following U.S. holidays: New Year's Day, Martin Luther King Jr's Birthday, George Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving and Christmas), he shall submit an application to the Contracting Officer. The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, exterior lighting shall be provided in conformance with EM-385-1-1 entitled "Safety and health Requirements Manual".

1.19 SCHEDULING OF WORK IN EXISTING FACILITIES

As soon as practicable, but in any event not later than thirty (30) calendar days after receipt of Notice to Proceed, the Contractor shall meet in conference with the Contracting Officer, or his duly authorized representatives, to discuss and develop mutual understanding relative to the scheduling of work in and access to the existing facilities where work has to be performed under this contract, so that the Contractor's proposed construction schedule is coordinated with the operating and security requirements of the Border Zone.

1.20 CONFLICTIVE DOCUMENTS

Conflict between contract documents will be brought to the attention of the Contracting Officer.

1.21 NOT USED

1.22 UTILITY 4X4 VEHICLES FOR GOVERNMENT USE

The Contractor shall furnish the vehicles listed in this clause for Corps of Engineers personnel and other persons as designated by the Contracting Officer. All vehicles shall be new or like new when furnished at the site. The Contractor shall fully maintain and repair vehicles listed below. Vehicles furnished by the Contractor under this clause shall, at the discretion of the Contracting Officer, remain the property of the Government. All costs for procuring, transporting, installing and replacing vehicles shall be included in the contract price for "Mobilization and Demobilization", and payment will be made in accordance with Mobilization and Demobilization payment item of the Proposal Schedule.

The Contractor shall furnish the vehicles listed in this clause for use by the Government within 60 calendar days from the date of Notice to Proceed.

1.22.1 Utility 4x4 Vehicles

The Contractor shall furnish the vehicles listed in this clause for Corps of Engineers personnel and other persons as designated by the Contracting Officer. All vehicles shall be new or like new when furnished at the site. The Contractor shall fully maintain and repair vehicles listed below. Vehicles furnished by the Contractor under this clause shall, at the discretion of the Contracting Officer, remain the property of the Government. All costs for procuring, transporting, installing and replacing vehicles shall be included in the contract price for "Mobilization and Demobilization", and payment will be made in accordance with Mobilization and Demobilization payment item of the Proposal Schedule.

The Contractor shall furnish the vehicles listed in this clause for use by the Government within 60 calendar days from the date of Notice to Proceed.

1.22.1 Utility 4x4 Vehicles

The Contractor shall provide for exclusive use by Corps personnel or employees, three (3) diesel-powered 4x4 vehicles of American, European, or Japanese manufacture. Said vehicles are to be licensed for driving on all roads in Tajikistan.

The vehicles shall be lightly armored. Contractor shall propose and Government shall approve vehicles with the requirements similar to those below:

Ballistic Protection
- Up to 7.62mm Armor Piercing Round Protection for vehicle body/windows/engine compartment

Electrical
- At least 24 volt dual battery system
- Preferred conduit & fused wiring busses to facilitate installation of radios and other electronics deemed necessary for completion of the mission to include tactical military communication systems if required.
- Preferred 110/220 volt inverter/plug-ins for additional electrical needs.

Engine Drive Train
- At least 4x4 drive transfer case
- Diesel engine at least 6 cylinder, prefer 8 cylinder
- At least 190 horse power capable

Performance
- Must be able to perform in types of environment not to include sub-artic/jungle but with temperature extremes over 100 degrees Fahrenheit and below zero degrees Fahrenheit and windy conditions indicative of Afghanistan climate.
- Prefer vehicle that can maintain at least 90-100 km/h cruising speed

Chassis & Suspension
- 4x4 capable
- Left or Right hand drive
- Must have spare tire & mount to include tire change equipment
- Winch desirable

- Tow bar or tow cable for breakdowns
- Manual or automatic transmission

Driver & Crew Visibility/Defense
- No obstructed fields of vision that cannot be compensated with use of mirrors

Passenger Load & Comfort
- Must be able to hold at least 6 adult-size individuals with ballistic vest protection
- Must have heat/ air conditioning for passenger compartment
- Must have easy in/out access for entry/escape
- Must have seatbelt/comparable restraint system for all occupants
- Must have white light interior, optional red light interior

Contractor provided vehicles shall be in new or like new condition with less than 1,000 kilometers on the odometer on the delivery date. The contractor shall provide diesel fuel, maintenance, parts, labor and lubrication required to maintain the vehicles in an operational status at all times. The fuel requirement shall be provided at the time the vehicle is requested. Maintenance including major repairs shall be accomplished in a timely manner. When repairs require more that a one-calendar day effort, the Contractor shall provide a similar substitute vehicle for the Government's use. The Contractor shall provide insurance for the vehicles to the full requirements of local and international jurisdiction law.

All vehicles provided to the Government shall be provided with fire extinguisher and Red Cross approved first aid kit.

Washing and cleaning of the vehicle's exterior and interior shall be provided on a weekly basis or more frequently as directed by the Contracting Officer.

1.23 NOT USED. See Section 01321 DESIGN-BUILD NETWORK ANALYSIS SCHEDULES (NAS)

1.24 REQUIREMENTS FOR REGISTRATION OF DESIGNERS

Engineers registered to practice in the United States, Canada, Australia, Taiwan, Japan or Western Europe (England, France, Germany, Holland, Denmark, Finland, Italy, Spain, Portugal, Belgium, Switzerland) shall prepare or review and approve the design of architectural, structural, mechanical, electrical, civil or other engineering features of the work in this solicitation.

1.25 PREPARATION OF AS-BUILT DRAWINGS (CONTRACTOR)

1.25.1 General

Upon completion of each facility under this contract, the Contractor shall prepare and furnish as-built drawings to the Contracting Officer. The as-built drawings shall be a record of the construction as

installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings, and all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, including all additional work not appearing on the contract drawings, and all changes which are made after any final inspection of the contract work. In the event the Contractor accomplished additional work which changes the as-built conditions of the facility after submission of the final as-built drawings, the Contractor shall furnish revised and/or additional drawings and drawing files as required to depict final as-built conditions. The requirements for these additional drawings shall be the same as for the as-built drawings specified in this paragraph.

1.25.2 Preliminary As-Built Drawings

The Contractor shall maintain a full size set of contract drawings for depicting a daily record of as-built conditions. These drawings shall be maintained in a current, reproducible condition at all times during the entire contract period and shall be readily available for review by the Contracting Officer's Representative at all times. The as-built drawings shall be updated daily by the Contractor showing all changes from the contract plans which are made in the work, or additional information which might be uncovered in the course of construction. This information shall be recorded on the prints accurately and neatly by means of details and notes. Changes and additional information marked on the contract plans should be made in red or green color for highlighting purposes. The drawings shall show the following information, but not be limited thereto:

a. The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.

b. The location and dimensions of any changes within the building or structure, and the accurate location and dimension of all underground utilities and facilities.

c. Correct grade or alignment of roads, structures, or utilities if any changes were made from contract plans.

d. Correct elevations if changes were made in site grading.

e. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

f. The topography and grades of all drainage installed or affected as part of the project construction.

g. All changes or modifications of the original design including those which result from the final inspection.

h. Where contract drawings or specifications allow options, only the option actually used in the construction shall be shown on the as-built drawings. The option not used shall be deleted.

i. In development of as-built drawings, the Contractor shall not substitute shop drawings for original contract drawings. All necessary information for as-built conditions shall be incorporated into contract drawings.

j. One (1) copy of the preliminary as-built marked prints shall be delivered to the Contracting Officer at the time of final inspection of each facility for review and approval. Changes and additional information marked on the contract plans should be made in red or green color for highlighting purposes. If upon review of the preliminary as-built drawings, errors or omissions are found, the drawings will be returned to the Contractor for corrections. The Contractor shall complete the corrections in red or green color, and return the as-built marked prints to the Contracting Officer within ten (10) calendar days.

1.25.3 Final As-Built Drawings

The Contractor shall update the digital contract drawing files to reflect the approved final as-built conditions and shall furnish those updated drawing files and plots of the final as-built drawings to the Contracting Officer.

a. Only personnel proficient in the use of Computer Assisted Design and Drafting (CADD) for the preparation of drawings shall be employed to modify the contract drawing files or prepare new drawing files.

b. Existing digital drawing files shall be updated to reflect as-built conditions. Independent drawing files containing only as-built information are not acceptable. The modifications shall be made by additions and deletions to the original drawing files, and where additional drawings are necessary, they shall be developed in individual digital files for each new drawing. All additions and corrections to the contract drawing files shall be clear and legible, and shall match the adjacent existing line work and text in type, size, weight, and style. New or revised information placed into the design files shall be placed on the levels and in the colors used for placement of the corresponding initial data. Similarly, the drawing size, title block, and general format of new drawings shall be consistent with the format established by the original drawings.

c. In the preparation of as-built drawings, the Contractor shall remove "Bubbles" used by the Government to highlight drawing changes made during design/construction. Triangles associated with those earlier drawing changes shall be left on the drawings and the Contractor shall not add triangles to designate modifications associated with representation of the as-built condition. The revision block identification of the drawing

modifications shall be left intact and the date of completion and the words "REVISED AS-BUILT" shall be placed in the revision block above the latest existing notation. Each drawing shall have the words "DRAWING OF WORK AS-BUILT" in letters 4.5 mm (3/16") high placed below the drawing title portion of the drawing title block; between the border and the trim line.

d. The Contractor shall check all final as-built drawing files for accuracy, conformance to the initial drawing scheme and the above instructions. The Contracting Officer will review the drawings and drawing files for conformance to these standards.

e. The Contractor shall furnish the digital as-built drawing files in the format native to the latest version in common use of AutoCAD. The Government will only accept the final product for full operation, without conversion or reformatting, in this format.

f. Digital drawing files shall be furnished to the Contracting Officer on CD-ROM or other media and format as approved by the Contracting Officer. A transmittal sheet containing the name of the files, the date of creation, the CD-ROM number, and a short description of the contents, shall accompany the CD-ROM.

g. A sample drawing shall be furnished to the Contracting Officer before delivery of final as-built drawings as a test to demonstrate compliance with the above instructions and file format compatibility with the described CADD software.

h. One (1) complete set of the updated final Record Copy digital drawing files and one (1) paper plot or copy of the final Record drawings shall be delivered to the Contracting Officer within 30 calendar days of approval of the preliminary as-built drawings.

If upon review of the final as-built drawings, errors or omissions are found, the drawings and drawing files will be returned to the Contractor for corrections. The Contractor shall complete the corrections and return both the digital files and the as-built prints to the Contracting Officer within ten (10) calendar days.

1.26 NOT USED.

1.27 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company involved and shall contain the name and address of the Contractor, the project name and location, description and the quantity of the items involved, and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or

dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material.

1.28 ACCIDENT PREVENTION (See also Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS)

The Contractor shall comply with all applicable Host Country laws and with such additional measures as the Contracting Officer may find necessary in accordance with CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV 1991)-ALTERNATE 1 (APR 1984). Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 385-1-1, will be applied to all work under this contract. The referenced manual may be obtained from the Contracting Officer's Representative at the jobsite or downloaded from the Headquarters U.S. Army Corps of Engineers website.

1.28.1 Accident Prevention Program

Within fifteen (15) days after receipt of Notice to Proceed, and at least ten (10) days prior to the accident prevention pre-work conference, four (4) copies of the Accident Prevention Plan required by the CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV 1991)-ALTERNATE I shall be submitted for review by the Contracting Officer. The Contractor shall not commence physical work at the site until the Accident Prevention Plan (APP) has been reviewed and accepted by the Contracting Officer or his authorized representative. The APP shall meet the requirements listed in Appendix "A" of EM385-1-1.

The program shall include the following:

a. TAC Form 61 "Accident Prevention Program Hazard Analysis (Activity Hazard Analysis)" fully completed and signed by an executive officer of the company in block No. 13.

The Activity Hazard Analysis is a method in which those hazards likely to cause a serious injury or fatality are analyzed for each phase of operations. Corrective action is planned in advance which will eliminate the hazards. An analysis is required for each new phase of work. On large or complex jobs the first phase may be presented in detail with the submittal of the Accident Prevention Plan rather than presenting the complete analysis. If the plan is to be presented in phases, a proposed outline for future phases must be submitted as a part of the initial Accident Prevention Plan submittal. Accident Prevention Plans will be reviewed for timeliness and adequacy at least monthly with a signature sheet signed and dated documenting that these reviews took place.

b. Copy of company policy statement of Accident Prevention and any other guidance as required by EM 385-1-1, Appendix A.

1.28.2 Ground Fault Circuit Interrupter (GFCI) Requirement – Overseas Construction

The Corps of Engineers Health and Safety Manual, EM 385-1-1, section 11.C.05.a states: "The GFCI device shall be calibrated to trip within the threshold values of 5 ma +/- 1 ma as specified in Underwriters Laboratory (UL) Standard 943." A variance from USACE has been granted allowing 10 ma, in lieu of 5 ma, for overseas activities that use 220 Volts(V)/50 hertz(hz) electrical power.

1.28.3 Temporary Power - Electrical Distribution Boxes

EM 385-1-1 section 11.A.01.a states "All electrical wiring and equipment shall be a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used." This includes temporary electrical distribution boxes. Locally manufactured electrical boxes will not be allowed. Only manufactured electrical distribution boxes that meet the European CE requirements, with 10 ma CE type GFCIs installed shall be allowed. Contractors shall:

a. Make no modifications that might void any CE or manufacturer certification.

b. Test the installed systems to demonstrate that they operate properly and provide the 10 ma earth leakage protection.

c. Ensure GFCIs will have an integral push-to-test function. The testing shall be performed on a regular basis.

d. Check that proper grounding is checked regularly and flexible cords, connectors, and sockets inspected before each use.

1.29 HAZARDOUS MATERIALS

Should the Contractor encounter asbestos or other hazardous materials, during the construction period of this contract, he shall immediately stop all work activities in the area where the hazardous material is discovered. The Contractor shall then notify the Contracting Officer; identify the area of danger; and not proceed with work in that area until given approval from the Contracting Officer to continue work activities.

Hazardous material is considered to be asbestos, explosive devices, toxic waste, or material hazardous to health and safety. The Contractor shall secure the area from daily traffic until it is safe to resume normal activities.

1.30 EMERGENCY MEDICAL TECHNICIAN (EMT) PARAMEDIC

The project site is isolated from any reasonable nearby medical services and therefore a Emergency Medical Technician (EMT) Paramedic or equivalent is required on the project site at all times. See Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS, Subsection 1.12 Emergency Medical Treatment.

1.31 thru 1.37 NOT USED

1.38 LOCALLY AVAILABLE SERVICE FOR EQUIPMENT

All equipment furnished under this contract, regardless of country of manufacture or purchase, must have in-country service availability. In the event that the Contractor proposed to provide equipment for which in-country service is not available, the Contractor must provide written justification for the Contracting Officer's approval. This justification shall be submitted for each product or material for which a waiver is sought concurrently with the submittal required by the Technical Provisions. Submission of group or "blanket" waivers is unacceptable.

1.39 NOT USED

1.40 CONTRACTOR FURNISHED EQUIPMENT LISTS

The Contractor shall furnish a list of all items, other than integral construction type items, furnished under the contract. Items such as furniture, drapes, rugs, vehicles, office machines, appliances, etc., shall fall under this category. The Contractor's list shall describe the item, give the unit price and total quantities of each. Model and serial numbers for equipment shall be provided when applicable. The Contractor shall keep an up-to-date register of all covered items and make this information available to the Contracting Officer or his representative at all times. Prior to acceptance, the Contractor shall submit the complete register to the Contracting Officer.

1.41 NOT USED

1.42 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

1.42.1 General

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984. The listing below defines the monthly anticipated unusually severe weather for the contract period and is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the geographic location of the project. The schedule of anticipated unusually severe weather will constitute the baseline for determining monthly weather time evaluations. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract each month, actual unusually severe weather days will be recorded on a calendar day basis (including weekends and holidays) and compared to the monthly anticipated unusually severe weather in the schedule below. The term "actual unusually severe weather days" shall include days actually impacted by

unusually severe weather. The Contractor's schedule must reflect the anticipated unusually severe weather days on all weather dependent activities.

MONTHLY ANTICIPATED UNUSUALLY SEVERE WEATHER CALENDAR DAYS

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
(2)	(2)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

1.42.2 Time Extensions

The number of actual unusually severe weather days shall be calculated chronologically from the first to the last day in each month. Unusually severe weather days must prevent work for fifty percent (50%) or more of the Contractor's work day and delay work critical to the timely completion of the project. If the number of actual unusually severe weather days exceeds the number of days anticipated in the paragraph above, the Contracting Officer will determine whether the Contractor is entitled to a time extension. The Contracting Officer will convert any qualifying delays to calendar days and issue a modification in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984.

1.43 PHYSICAL CONDITIONS

The indications of physical conditions on the drawings and in the specifications are the result of site investigations. Exploration logs are presented as an appendix attached to these Special Clauses.

1.44 STANDARDIZATION

Where two or more items of the same type or class of equipment furnished in this project are required, the units shall be products of the same manufacturer and shall be interchangeable when of the same size, capacity, performance characteristics, and rating. The only exception to this requirement is where the items are interchangeable due to conformance with industry standards (valves, fittings, etc.), they need not be by the same manufacturer. This requirement applies to all manufactured items in the project which normally require repair or replacement during the life of the equipment.

1.45 NOT USED

1.46 NOT USED

1.47 CUSTOM EXEMPT CONTRACT

The Contractor shall furnish to the Contracting Officer, just prior to completion of this contract, a consolidated inventory of all excess supplies, materials, and equipment imported duty free for use under

this contract. The Contractor shall either pay required duties on the excesses, re-export the excesses, or the excesses shall become the property of the Government.

1.48 CONTRACTOR TRANSPORTATION AND CUSTOMS CLEARANCE

All materials and equipment which are not to be incorporated into the project, such as office trailers, cranes, metal forms, etc., may be shipped free of duty, if the following actions are taken:

1.48.1 Shipments of Materials

All shipments of materials into the country for use in performance of work under this contract and supplies or services necessary for support of the Contractor's personnel shall be addressed to the shipping address furnished to the Contractor by the Contracting Officer. Address will be furnished upon request by the Contractor.

1.48.2 Contractor's Responsibilities

The Contractor shall be responsible for all customs clearance actions. All necessary arrangements, clearance procedures, and coordination with the Host Government customs, will be the sole responsibility of the Contractor. The Contractor shall submit to the Contracting Officer, with a cover letter, information copies of the shipping documents for the shipment(s) involved. As a minimum, the following shall be included as enclosures, with the cover letter to the Contracting Officer in three (3) copies:

a. Invoice. (Include a copy in the language of the Host Nation)

b. Bill of Lading.

c. Certificate of Origin.

d. Statement on the cover letter as to Port of Customs Clearance, estimated arrival date, general description of the shipment, quantity and the name of the carrier.

e. Serial number or model number of shipment items.

1.48.3 Physical Handling of Materials

The Contractor shall be responsible for performance of all loading, unloading, transportation or other physical handling of materials as may be required, including all movement from carrier unloading site to delivery at the job site and all movement required at the customs area.

1.48.4 Certification

The U.S. Embassy, upon receipt of request of shipping documents, shall issue a letter to the Director of Customs certifying that the materials are being brought into Egypt under the applicable agreement and should be allowed into Egypt duty-free.

1.49 COMPLIANCE WITH HOST COUNTRY RULES AND CUSTOMS

The laws of Host Country may prohibit access to certain areas of the country which are under military control. The Contractor shall furnish the Contracting Officer the names of personnel, type, and amounts of equipment, dates and length of time required at the site, and the purpose of entering the host country. It is understood that areas to which rights of entry are provided by the Host Government are to be used only for work carried out under the contract and no destruction or damages shall be caused, except through normal usage, without concurrence of the Host Government.

1.49.1 Contractor's Responsibilities

The following items are the sole responsibility of the Contractor to investigate, estimate as to cost, and assume the risk, as normally encountered by Contractors. The Contractor shall be responsible for determining the effect of the following on his own cost of performance of the contract and for including sufficient amount in the contract price:

a. Official language and type of accounts required to satisfy the officials of the Local Government.

b. Entry and exit visas, residence permits, and residence laws applicable to aliens. This includes any special requirements of the Host Government, including those required by local Labor Offices, which the Contractor may have to fulfill before an application for a regular block of visas will be accepted.

c. Passports, health and immunization certificates, and quarantine clearance.

d. Compliance with local labor and insurance laws, including payment of employer's share of contribution, collecting balance from employee and paying into insurance funds.

e. Strikes, demonstrations and work stoppage.

f. Collection through withholding and payment to local Government, of any Host Country income tax on employees subject to tax.

g. Arranging to perform work in the Host Country, to import personnel, to employ non-indigenous labor, to receive payments and to remove such funds from the country.

h. Operating under local laws, practices, customs and controls, and with local unions, in connection with hiring and firing, mandatory wage scales, vacation pay, severance pay, overtime, holiday pay, 7th day of rest, legal notice or pay in lieu thereof

for dismissal of employees, slowdown and curtailed schedules during religious holidays and ratio of local labor employed in comparison to others.

i. Possibility of claims in local bureaus, litigation in local courts, or attachment of local bank accounts.

j. Compliance with workmen's compensation laws and contributions into funds. Providing necessary medical services for employees.

k. Special license required by the local Government for setting up and operating any manufacturing plant in the Host Country, e.g. concrete batching, pre-cast concrete, concrete blocks, etc.

l. Sales within the host country of Contractor-owned materials, and equipment.

m. Special licenses for physicians, mechanics, tradesmen, drivers, etc.

n. Identification and/or registration with local police of imported personnel.

o. Stamp tax on documents, payments and payrolls.
p. Base passes for permanent staff, day laborers, motor vehicles, etc.

q. Compliance with all customs and import rules, regulations and restrictions, including, but not limited to, local purchase requirements.

1.50 THRU 1.52 NOT USED

1.53 IDENTIFICATION OF EMPLOYEE'S PERSONNEL AND VEHICULAR ACCESS TO THE PROJECT SITES

The Tajik Border Police and the Russian Border Forces maintain the ultimate authority for establishing, monitoring, and enforcing security requirements for the Border Zone and for entry into any part of Tajikistan. The Afghan Borders Forces maintain the ultimate authority for establishing and enforcing security requirements is all parts of Afghanistan. All contractor, subcontractor, or vendor personnel and vehicles at any tier working at any location on the Fenced Project Sites on either side of the River are subject to a thorough search upon entering, departing, or at any time deemed necessary by the respective Border Authority Personnel. The Contractor shall be responsible for compliance with all the Border Zone security requirements. The Government reserves the right to deny access or to require the contractor to remove any personnel or equipment deemed to be a threat to the security of the Project or the respective Borders and Territory of the Host Nations. The Contractor shall work through the Contracting Officer to ensure that the Border Zone and Host Nation Security Regulations are followed.

The Afghanistan-Tajikistan Bridge and its Tajik Approach Road crosses a secured and highly controlled Zone of the Afghanistan-Tajikistan Border. The Corps, with the help of the U.S. Embassy in Tajikistan, has arranged that the project site be given dispensation to bring large numbers of bridge worker into a segment of the Border Zone. The Contractor shall erect project security fencing in accordance with Section 01500 TEMPORARY CONSTRUCTION FACILITIES, paragraph 1.8.

1.53.1 Employee Identification

For the Tajik Project Site, the Contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work, to display bilingual English/Tajik photo-identification as approved and directed by the Contracting Officer. Each ID must also clearly identify the nationality the employee. No employee will be allowed into the site without the said ID and no person without a Tajik-ID or other authorization to be in Tajikistan will be allowed to exit the project site and enter Tajikistan without passing through Tajik/Russian Customs. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

For the Afghan side, the photo-identification shall be in English and Dari. All other procedures will be the same.

1.53.1.1 Preparation of Identification Badges

The Contractor shall be required to prepare a written application inclusive color photographs and provide all materials and labor necessary to prepare a bilingual English/Tajik or English/Dari identification badge, laminated in plastic, containing the employee's name, badge number, color photo, height and weight, the name of the Contractor's organization and for requiring each employee engaged on the work to display this identification as directed by the Contracting Officer. The Contractor shall submit a copy of each application and copy of the badge through the Contracting Officer to the respective Border Forces. Badges shall not be taken out of country during periods of travel or absence. During such periods, the Contractor may be permitted to issue temporary identification badges.

1.53.1.2 Employee Background and Historical Information

The Contractor shall be required to prepare and maintain personal background and historical information forms on each employee. These forms may be reviewed by the Corps or by Border Force Security Personnel. The required information shall include but not necessarily be limited to the following:

a. Full name.
b. Place and date of birth.

c. Three (3) current color photographs.
d. Not used.
e. Copy of Citizenship/Nationality identification.
f. Copy of Passport (if Third Country National (TCN))
g. Copy of driver’s license (if TCN).
h. Not used.
i. Work History.
j. Personal background information.
k. Copy of Work Permit and/or Visa. (if TCN)
l. Permanent home of record and in-country address (if TCN).

1.53.2 Identification of Contractor Vehicles

The Contractor shall be responsible for requiring each vehicle engaged in the work to display permanent vehicular identification as approved and directed by the Contracting Officer. If approved by the Contracting Officer, the Contractor may institute a system of non-permanent temporary identification for one-time delivery and transit vehicles. Each Contractor vehicle, machine, piece of equipment, or towed trailers, shall show the Contractor's name such that it is clearly visible on both front doors of the vehicle and both sides of a towed trailer. A valid license plate shall be displayed at all times. Contractor vehicles operated on Government property shall be maintained in a good state of repair, shall be insured, and shall be registered in accordance with Tajik or Afghan Law, respectively.

1.53.3 Security Plan

The Contractor shall submit to the Contracting Officer, within twenty (20) calendar days after Notice to Proceed, his proposed personnel and vehicular access plan. This plan shall cover all elements for issuance of the access passes, safeguarding of un-issued passes, construction security operations, lost passes, temporary vehicle passes, and collection of passes for employee's and vehicles on 1)- temporary absence; 2)- termination or release; and 3)- termination or completion of contract. The plan shall address in detail the contractors proposed procedures, and organization necessary to produce and maintain effective security within the contract limits twenty-four (24) hours a day seven (7) days a week.

1.54 NOT USED

1.55 RADIO TRANSMITTER RESTRICTIONS

To preclude accidental actuation of sensitive electronic equipment, the Contractor shall not use radio transmitting equipment without prior approval of the Contracting Officer.

1.56 BORDER ZONE PHOTOGRAPHY PROHIBITION

The Contractor shall not engage in any form of photography of the Tajik Border Zone outside of the fenced Project Area without prior written approval from the Contracting Officer.

1.57 PUBLIC RELEASE OF INFORMATION

1.57.1 Prohibition

There shall be no public release of information or photographs concerning any aspect of the materials or services relating to this bid, contract, purchase order, or other documents resulting therefrom without the prior written approval of the Contracting Officer.

1.58 REQUIREMENT FOR USE OF ENGLISH LANGUAGE - KEY PERSONNEL

This is a U.S. Army Corps of Engineers Project and all official business, communications, and correspondence shall be conducted in English. All specification, drawings, referenced reports are in English. All Contractor reports, communications, submittals, and requests for payment shall be in English.

To insure construction capability that is dependable, technically proficient, and responsive to the project specifications and requirements, the Contractor shall employ personnel in key management and supervisory positions at the site of the work who are proficient in spoken and written English. The following positions are required to be filled by person who both can speak and read English:

Project Manager
Assistant Project Manager
General Superintendent
All Superintendents
Contractor Quality Control (CQC) System Manager
Key CQC Personnel
Accident Prevention System Manager
Scheduler
Chief of Security
EMT-Paramedic

1.59 ENGLISH SPEAKING REPRESENTATIVE

At all times when any performance of the work at any site is being conducted by any employee of the Contractor or his subcontractors, the Contractor shall have a representative present at each site who has the capability of receiving instructions in the English language, fluently speaking the English language and explaining the work operations to persons performing the work in the language that those performing the work are capable of understanding. The Contracting Officer shall have the right to determine whether the proposed representative has sufficient technical and lingual capabilities, and the Contractor shall immediately replace any individual not acceptable to the Contracting Officer.

1.60 FALL PROTECTION

Fall protection requirements shall be in accordance with Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

1.61 NOT USED.

1.62 NOT USED.

1.63 NOT USED.

1.64 UNEXPLODED ORDNANCE

1.64.1 General

The requirements of this clause are in addition to and supplement EM 385-1-1 U.S. Army Corps of Engineers Safety and Health Requirements Manual.

1.64.1.1 UXO Safety Support During Construction

The immediate vicinity of construction site at Sher Khan, Afghanistan has been cleared by an Explosive Ordnance Disposal contractor HALO TRUST. However, unexploded ordnance (UXO) may be discovered and/or uncovered within or around the construction work areas. It is the responsibility of the Contractor to be aware of the risk of encountering UXO and to take all actions necessary to assure a safe work area to perform the requirements of this contract. If at any time during contract performance, the Contractor becomes aware of or encounters UXO or potential UXO, the Contractor shall immediately stop work at the site of the encounter, move to a safe location, notify the contracting Safety Manager, the UXO Team, and the Contracting Officer. In these cases the contractor shall be required to identify and dispose of the ordnance and mitigate any delays to scheduled or unscheduled work.

1.64.1.2 Background

The Afghanistan/Tajikistan border area has been occupied by the Northern Alliance, Russian Military and other various warring parties during the last 25 years. During this time, forces occupied the immediate and surrounding area and facilities. Numerous types of unexploded ordnance remain in the area left behind from the occupation and subsequent liberation, some of which pose a threat to unwary or unescorted visitors. Visitors and workers to these facilities must be careful at all times to avoid disturbing unexploded ordnance, and should stay away from suspicious objects. This advice should be considered even in areas listed as having been cleared by Explosive Ordnance Disposal teams since there is always a chance that ordnance was missed. All personnel wishing to visit these sites must receive an

UXO safety briefing and be escorted at all times. AED has personnel available to give unexploded ordnance (UXO) safety briefings.

1.64.1.3 Site Geotechnical Characteristics are given in the following reports. These reports are for INFORMATION ONLY, and may be accessed and downloaded at http://www.bakergis.com/a-t_bridge/.

Final Geotechnical Information Research Report for Afghanistan-Tajikistan Bridge Over the Pyandzh River, report prepared by M. Baker Jr., Inc. for the U.S. Army Corps of Engineers, Transatlantic Programs Center, Contract DACA78-02-D-0007, Task Order # 0006, January 2004.

Geotechnical Engineering Report, Afghanistan-Tajikistan Bridge over the Pyandzh River, Contract DACA78-02-D-0007 Task Order 0014 August 2004

1.64.2 Ordnance Removal Requirements

1.64.2.1 UXO Investigation

The Contractor shall provide all labor, materials, and equipment necessary to perform UXO investigation and removal. The Contractor shall furnish the required UXO qualified personnel, equipment, instruments, accessories, and transportation, as necessary, to accomplish the required services and furnish to the Government reports and other data, together with supporting material developed while providing UXO support services. During the implementation phases, the Contractor shall provide adequate professionally qualified supervision and quality control to ensure the quality, safety, and completeness of the work.

1.64.2.2 Ordnance Identification

It will be the responsibility of the contractor to perform all ordnance identification and incidental removal actions as required to perform the requirements contained in this contract. The Contractor shall perform all ordnance removal actions necessary to assure safe/clear work areas for all contractor, sub-contractor and Corps of Engineer employees.

1.64.2.3 Personnel

The contractor shall obtain the services of a minimum of three (3) qualified Explosive Ordnance Disposal (EOD) personnel for the duration of the construction contract. The EOD personnel will have the necessary equipment to satisfactorily complete the identification and/or removal actions described herein.

a. A Senior UXO Supervisor (SUXOS) will be on-site when multiple UXO teams are engaged in UXO activities.

b. An UXO Safety Supervisor (UXOSO) will be required on all subsurface clearance projects.

c. An UXO Quality Control Specialist (UXOQCS) will be required on all subsurface clearance projects.

d. UXO personnel involved in performing UXO tasks shall be limited to an eight (8) hour workday and a forty (40) hour workweek. Each workweek shall be separated by a minimum of 48 hours of rest.

1.64.2.4 Type and Extent Of UXO

The Contractor shall be required to remove/dispose of UXO that could interfere with the accomplishment of the work contained in the contract documents or might result in the creation of an unsafe area in areas frequented by contractor and/or Corps of Engineers (CE) employees. The types and extent of UXO that is known or suspected to be encountered include but is not necessarily limited to: munitions, land mines, personnel mines, cluster bombs, and explosive residue.

1.64.2.5 Other Requirements

UXO removal/disposal shall be in accordance with: The approved UXO Work Plan, Site Safety and Health Plan, and the Explosive Siting Plan, Host Government requirements, and all applicable provisions of the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1.

1.64.3 Explosives Safety

There are no "safe" methods for dealing with UXO, merely procedures and process controls that are designed to reduce potential hazards. Maximum safety in any UXO response can be achieved through adherence to applicable safety precautions, a planned approach, and intensive supervision and UXO safety oversight. UXO qualified personnel will conduct a UXO-related site safety briefing prior to commencing operational activities each workday. All activities with potential exposure to ordnance and explosives will be reviewed to identify the associated risks and proposed mitigation procedures. Operations within areas suspected of containing UXO must be conducted in a manner that exposes the minimum number of people to the smallest quantity of explosives for the shortest period of time. During UXO subsurface clearance actions, all non-essential project personnel will withdraw to a location outside of the exclusion zone.

1.64.3.1 General Safety Considerations

General safety considerations applicable to personnel, both essential and non-essential, at project sites where UXO may be encountered include:

a. Do not carry fire or spark-producing devices.

b. Do not conduct explosive or explosive-related operations without approved procedures and proper supervision and UXO safety support.

c. Do not become careless by reason of familiarity with UXO or the reported probability level of UXO contamination.

d. Do not conduct explosive or potentially explosive operations during inclement weather.

e. Avoid contact with UXO except during UXO clearance operations.

f. Conduct UXO-related operations during daylight hours only.

g. Employ the "buddy system" at all times.

1.64.3.2 Activity Hazard Analysis (AHA) Briefings

a. Activity Hazard Analysis's shall be prepared in accordance with the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1.

b. Hazard analyses will be prepared and briefed by personnel that are knowledgeable in UXO and explosives safety standards and requirements. These personnel should understand the specific operational requirement and hazard analysis methodologies. A hazard analysis will be performed for each activity to determine the significance of any potential explosive-related hazards. Explosive residues may be discovered or exposed during UXO operations in the form of powder or various granular and powder based pellets. These contaminants can enter the body through the skin or by ingestion if proper personal hygiene practices are not followed. Explosive fillers such as white phosphorus are dangerously reactive in air and acute exposure can result in serious injury to the skin, eyes, and mucous membranes. They are also a fire hazard. Safety requirements (or alternatives) that will either eliminate the identified hazards, mitigate or control them to reduce the associated risks to an acceptable level will be developed. The adequacy of the operational and support procedures that will be implemented to eliminate, control, or abate identified hazards or risks will then be evaluated and a second risk assessment completed to verify that a satisfactory safety level has been achieved.

1.64.3.3 Hazards of Electromagnetic Radiation To Ordnance

Some ordnance items and other electro-explosive devices (EEDs) are particularly susceptible to electromagnetic radiation (EMR) in the radio frequency range. The location of all potential sources of electromagnetic radiation (EMR) in the radio frequency (RF) range originating from devices such as radio, radar, and television transmitters, shall be documented. The UXO Contractor shall coordinate with the appropriate agencies or company(ies) and establish the means for their control prior to commencement of work. In addition, active

and passive subsurface detection devices emit EMR/RF. Each type of equipment producing EMR/RF must be reviewed and an Activity Hazard Analysis completed. The level of EMR/RF susceptibility and potential hazard is a result of the design and type of ordnance item that may be present. Therefore, a knowledge of what ordnance is normally unsafe in the presence of EMR/RF is important so preventive steps can be taken if the ordnance is encountered.

1.64.4 Personal Protective Equipment (PPE)

1.64.4.1 PPE For UXO Operations

All UXO team members should be trained in the use of, medically qualified for, and physically able to wear, the prescribed PPE. PPE for UXO support operations will be determined by site-specific and task-specific analyses, documented in the site-specific SSHP, and worn as indicated in the plans. Specific requirements for PPE are described in the following paragraphs.

a. PPE will comply with the more stringent requirements of EM 385-1-1, US Army Corps of Engineers Safety and Health Requirements Manual, and the applicable portions of 29 CFR 1910 Subpart I or 29 CFR 1926 Subpart E.

b. Footwear: In addition to the applicable requirements in the references cited above, shoes or boots with high traction soles and ankle protection will be used. During geophysical detection activities, UXO support personnel will not wear safety shoes or other footwear that would cause interference with instrument operations.

c. Clothing: Short sleeve shirts and long pants are considered the minimum clothing suitable for UXO support work and will be worn at all work sites, unless variations are described, analyzed and documented in the accepted SSHP.

d. Head Protection: Personnel working in or visiting designated hard hat areas will be required to wear head protection meeting American National Standards Institute (ANSI) Z89.1 standards. Hardhat areas for UXO support activities should not be designated unless the activity hazard analysis shows a possible overhead hazard.

1.64.4.2 PPE Limitations

UXO support personnel using PPE will be knowledgeable of the limitations of the selected PPE as well as the reduced performance levels the equipment might pose while conducting assigned tasks.

1.64.5 Fire Prevention

1.64.5.1 Fire Prevention Awareness

Fire prevention awareness is especially important in areas suspected of being contaminated with UXO. Smoking should only be permitted in controlled areas where all combustibles (e.g., vegetation, fuel cans, sampling supplies) have been removed or sufficient firebreaks have been established. Personnel may attempt to extinguish minor fires with fire extinguishers if they are trained to do so safely without endangering themselves or others within the vicinity of the fire.

1.64.5.2 Uncontrollable Fire

If a fire becomes uncontrollable or extends into areas with unknown UXO contamination, all personnel must immediately suspend any fire fighting efforts and retreat to a safe distance, which is at least the maximum fragment distance of the Most Probable Munition (MPM). Personnel should retreat upwind of the fire. The senior UXO qualified person present should then lead an immediate evacuation of the area using available resources to ensure the safety of all personnel.

1.64.6 Emergency Procedures

UXO support activities may result in accidents or incidents, regardless of the safeguards implemented. All personnel must be briefed on the emergency response procedures and protocols discussed in the Site Safety and Health Plan (SSHP).

1.64.6.1 Emergency Response

In the event of an UXO-related emergency on-site, the senior UXO qualified person present will direct the course of action until the local POC designated in the Work Plan has been notified. It may be necessary for other on-site personnel to provide assistance. If an emergency response rescue operation is required, no one will reenter the accident area until the hazards of the situation have been assessed by the responsible person, and all required resources are on-hand to complete the rescue without jeopardizing the safety of rescue personnel.

1.64.6.2 Emergency Rescue

The senior UXO qualified person or the local POC, as applicable, will direct any UXO related emergency response rescue operation. Response considerations include the following elements:

(a) Designation of an emergency response vehicle(s) to remain on-site during rescue operations.

(b) Determination of existing hazards, as well as the potential for additional hazards.

(c) Coordination with the Contracting Officer.

(d) Assessment of the situation and condition of any victims.

(e) Determination of the resources needed for victim stabilization, transport, and additional emergency support.

(f) Enforcement of the Buddy System. No one will be permitted to enter a rescue area alone.

(g) Oversight of the removal of injured personnel from the area.

(h) Consultation with on-site safety officers to establish decontamination protocols. Decontamination of injured parties will be accomplished after stabilization of their medical conditions. This action need not be accomplished if their condition poses immediate threat to the victim's life or may cause additional injury. If contamination is suspected, the victim will be wrapped in material to prevent the spread of contamination during extrication and transport. Emergency medical personnel will be advised on potential injuries, as well as potential contamination, of the patient as early as possible. The patient will not be transported to a medical facility without prior notification of, and coordination with, the receiving facility regarding potential contamination.

1.64.6.3 Mishap Reporting and Investigation Requirements

The following information provides guidelines to be followed for reporting mishaps involving UXO operations.

a. Reporting Requirements. All mishaps will be investigated by the contractor and reported to the Contracting Officer.

(1) The senior UXO-qualified person on-site is responsible for mishap reporting. For subsurface clearance projects in support of construction activities, the contractor's UXO Safety Officer (UXOSO) is responsible for mishap reporting.

(2) Chemical Warfare Materiel (CWM) Incidents. Incidents involving CWM will be identified, documented, and coordinated with special requirements from the Contracting Officer.

b. Investigation Requirements: In the event of a mishap, the contractor will implement emergency procedures and secure the scene to keep unauthorized persons away for their protection and to preserve the evidence for subsequent mishap investigation. On military, Host Nation local authority maintains the prerogative to investigate explosive mishaps.

1.64.7 Execution

1.64.7.1 Pre-Work Meeting

The UXO team should meet with on-site management and construction personnel and conduct a general pre-work briefing including: limited to building and/or war debris, vegetation removal, topography, soil conditions, seasonal climatic conditions, utility locations and sources of electromagnetic Radiation (EMR) in the radio frequency range originating from devices such as radio, radar, television transmitters, antennas, communication and radar devices.

a. Known and suspected site hazards and site specific safety considerations.

b. UXO safety support procedures.

c. Responsibilities and lines of authority for any UXO-related response.

d. Emergency response procedures.

e. A physical preview of the actual construction footprint with the both the Construction Contractor and the government to discuss visual observations and potential areas of concern. This includes but is not necessarily

1.64.7.2 Indoctrination, Training and Instruction

The contractor shall ensure that UXO personnel receive the appropriate training, medical surveillance, and personal protective equipment required to safely perform all clearance efforts.

a. Prior to commencement of work UXO personnel shall review archival information regarding the work area and interview personnel knowledgeable of site conditions. The probable types of UXO that is known or suspected and the specific safety considerations for each, shall be ascertained.

b. All employee's engaged in UXO activities shall be instructed in the UXO Work Plan and the Site Safety and Health Plan (SSHP) approved by the Government to the extent necessary to conduct their activities in a safe manner.

c. The Contractor shall develop an attendance roster or a similar document indicating each employee's attendance. Each employee instructed shall be required to sign this document for each and every class, subject and/or topic that instruction was provided for. The Contractor's failure to have an employee's attendance verified in writing may be cause for the Government to order the Contractor to repeat the instruction where evidence of attendance cannot be verified. No part of the time lost due to such repeat instruction shall be made the subject of claim for extension of time or for excess costs or damage by the Contractor.

1.64.7.3 Safety Briefings and Visitors

The UXO Contractor shall conduct UXO safety briefings for all site personnel and visitors including explosive ordnance recognition, location, and safety functions.

a. UXO qualified personnel shall meet all visitors and ascertain their specific requirements and objectives, and conduct a general work and safety briefing prior to commencing a transit of any UXO area.

b. Visitors shall be escorted at all times by UXO personnel. Escorted personnel will follow behind the UXO escort. If anomalies or UXO are detected, the UXO escort will halt escorted personnel in place, select a course around the item, and instruct escorted personnel to follow.

1.64.7.4 Safety

a. UXO PLANS: All clearance actions shall be accomplished in strict accordance with the Government approved UXO Work Plan and Site Safety and Health Plan (SSHP).

b. SAFETY SIGNS: All areas known or suspected of containing UXO shall be posted with appropriate signage and cordoned off to prevent inadvertent entry by unwary individuals.

c. EXCLUSION ZONES: Exclusion zones shall be established and clearly identified. During UXO operations, personnel not directly involved in the specific UXO clearance task must be physically escorted to a location outside the exclusion zone.

1.64.7.5 On-Site Authority

The UXO Safety Supervisor (UXOSO) has final on-site authority on all UXO matters.

1.64.7.6 Access Survey

The team must conduct a surface access survey and a subsurface survey for anomalies before any type of activities commence, including foot and vehicular traffic. The team will conduct an access survey of the footpath and/or vehicular lanes approaching and leaving areas with known or suspected UXO contamination. The access route shall be at least twice as wide as the widest vehicle that will use the route. The UXO team must also complete an access survey of an area around the site that is large enough to support all planned operations. The size of the surveyed area will be site-specific and will take into account, for example, maneuverability of required equipment (e.g., drill rigs, excavation equipment, etc.), parking of support vehicles, and establishment of decontamination stations. As a minimum, the surveyed area should have a dimension in all directions equal to twice the length of the longest vehicle or piece of equipment to be brought on-site.

1.64.7.7 Calibration

Each day, prior to use in the field, geophysical instrumentation shall be checked for operational reliability and calibration against an item with a known response. Copies of instrument checkout and calibration verification shall be maintained on-site. If calibration checks indicate that the instrument is not operating within an acceptable range and field adjustments do not resolve the discrepancy, the instrument shall be immediately tagged and removed from service.

1.64.7.8 Maintenance

Preventative maintenance shall be performed on a regularly scheduled basis. If an equipment problem is encountered, maintenance shall be performed as soon as possible and records of the unscheduled maintenance and corrective action shall be maintained and shall indicate equipment identification, problem description, corrective action, the person performing the maintenance, and associated costs.

1.64.7.9 Deteriorated Explosives and Damaged Equipment

Explosives or equipment (including accessory equipment) that is deteriorated or damaged shall immediately be removed from service.

1.64.7.10 Vibration Perimeter

Prior to commencement of UXO removal work, a vibration free zone shall be determined. This area shall be coordinated with the Contracting Officer and clearly establish what type of machinery and equipment may or may not be operated within the established boundaries.

1.64.7.11 Utilities

The UXO contractor shall coordinate with the appropriate agency(ies) or company(ies) to identify, mark and verify the location of all surface and subsurface utilities. Additionally, the means for their control shall be identified and confirmed, prior to the commencement of work. Subsurface utilities/service lines may include but are not necessarily limited to: electric; gas; water; chilled water; steam; sewer; etc. The UXO team shall take appropriate measures to locate utility lines that may not be made of ferrous material.

1.64.7.12 Flagging

The UXO team will establish a system of flagging colors that will distinguish buried UXO, surface UXO, route boundaries and utilities.

a. When UXO is encountered, it will be marked with survey flagging and pin flags.

b. All located utilities shall be marked by paint, pin flags, or other appropriate means to visually delineate their subsurface routing. The color shall not conflict with the colors used in UXO activities.

1.64.7.13 Excavation Monitoring

The UXO shall monitor all excavation activities in areas potentially contaminated with UXO. One member of the team shall be positioned to the rear and upwind of the excavation equipment for continuous visual observation of activities. If the construction contractor unearths or otherwise encounters suspect UXO, all excavation activities shall cease. The UXO team will assess the condition of the UXO to determine if disposal action is required. Once the UXO has been encountered in an excavation, no further excavation is allowed at that location. Once the UXO has been removed and the UXO team has issued the "All Clear" signal, excavation may continue.

1.64.7.14 Unplanned UXO Discovery

If, during construction activities, UXO is unexpectedly discovered or uncovered, or suspected to be present, all operations shall cease immediately. The contractor shall safeguard the site pending notification and arrival of the UXO team. No further work shall be conducted in that location until the UXO team has assessed the situation to determine if disposal action is required. Once the UXO has been removed and the UXO team has issued an "All Clear" notice, construction work may continue.

1.64.7.15 UXO Destruction

Destruction of recovered UXO can take one of three (3) forms: in-place; on-site; and off-site. The decision regarding which technique should be used must be based on the nature of the UXO encountered, site-specific characteristics and the risk involved in employing the disposal operation. The decision regarding the technique rests with the UXO Safety Supervisor (UXOSO) who has final on-site authority for all UXO matters. Under no circumstances will UXO destruction activities be conducted with less than a three (3)-man team. One member of this team must always be located outside the minimum separation distance for intentional detonations to give warning and assist in rescue activities in the event of an accident.

a. IN-PLACE DESTRUCTION: When an UXO item cannot be safely moved to an alternate location for destruction, In-place destruction (blow-in-place) may be used. Prior to commencement of in-place destruction, the UXO Team shall conduct a joint meeting with the Contracting Officer, the Construction Contractor, and any other stakeholders deemed necessary by the Government. The purpose of this meeting is to coordinate the proposed in-place destruction and allow the stakeholders an opportunity to access any potential negative impact. If negative impact is identified, the UXO team

shall allow a reasonable time for the stakeholder to implement mitigating measures as appropriate.

b. ON-SITE DESTRUCTION: If UXO is encountered in close proximity to occupied buildings and it is not possible to safely destroy the item in place, the item may be moved to a remote part of the project site where destruction and disposal can safely take place. Engineering controls to minimize the blast effect shall be used when appropriate.

c. OFF-SITE DESTRUCTION: UXO transported off-site for destruction shall be transported in military or civilian vehicles modified, manufactured, created, or built for the purpose.

(1) Armed fuses will only be transported when absolutely necessary and when all other avenues for in-place disposal have been exhausted.

(2) Base-ejection type projectiles shall be transported with the base oriented to the rear of the vehicle and the projectile secured.

(3) Incendiary loaded munitions shall be placed on a bed of sand and covered with sand.

(4) Loose pyrotechnic, tracer, flare, and similar mixtures shall be placed in # 10 mineral oil or equivalent.

(5) White phosphorus filled munitions shall be immersed in water, mud, or wet sand.

1.64.8 Explosives

Explosives used for the destruction of UXO shall be acquired and managed in accordance with applicable Federal, Host Nation, and local laws and regulations.

1.64.9 Temporary Explosives Storage Facilities

The UXO Contractor shall establish and maintain temporary storage magazine for explosives in accordance with applicable Federal, Host Nation, and local laws and regulations. The Contractor is responsible for determining and implementing physical security. This includes but is not necessarily limited to adequate fencing, guards, secure doors, key control system, and inventory control.

1.64.10 Procedures For Suspected Chemical Weapons

Munitions containing s chemical substance that is intended to kill, seriously injure, or incapacitate a person through its physiological effects will be considered a chemical weapon.

1.64.10.1 Chemical Weapons Discovery

Any time suspected chemical weapons are encountered, all work will immediately cease. All personnel will withdraw along cleared paths upwind from the discovery. The contractor shall safeguard the site pending notification and arrival of the UXO team. No further work shall be conducted in that location until the UXO team has assessed the situation to determine if the item is a chemical weapon. Personnel shall position themselves as far upwind as possible while still maintaining security of the area.

1.64.10.2 Notification

If the UXO team determines that the item encountered is in fact a chemical weapon, the UXO shall immediately contact the Contracting Officer. With the exception of safeguarding the site, no further action shall be taken pending notification from the Contracting Officer.

1.64.11 Submittal Requirements

The following submittals requiring Government approval shall be submitted in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT.

1.64.11.1 UXO Work Plan

A minimum of thirty (30) calendar days prior to proposed start of work, the UXO Contractor shall submit a comprehensive UXO Plan for review and comment by the government. The objective is to conduct safe and efficient operations while limiting potential exposure to a minimum number of personnel for a minimum time and to a minimum amount of UXO. Modifications may be required to the Work Plan and/or the Site Safety and Health Plan (SSHP) after approval by the Contracting Officer. A modification that affects any UXO subsurface clearance operational and/or safety procedures may also require a revision to and re-submittal of the Explosives Siting Plan. At a minimum the plan shall include but not necessarily be limited to the following:

a. A detailed description of the proposed management approach.

b. Step-by-step instructions on the proposed operational procedures that will be used to complete the UXO clearance operations specific to this contract.

c. Comprehensive guidelines indicating the methods and procedures specific to this contract that the UXO team(s) intends to implement to promote safe and efficient operations.

d. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a UXO function.

e. A copy of the letter to each UXO team member signed by an authorized official of the firm which describes the responsibilities and authorities delegated to that individual including authority to stop work which is not in compliance with the contract or, is deemed unsafe.

f. Procedures for tracking UXO work and safety deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

g. The specific, instrumentation, apparatus, gear, protective gear, machinery, accessories and accouterments the UXO contractor proposes to use including maintenance and calibration schedules.

h. The contractor shall validate the capabilities of geophysical instrumentation by demonstrating that it is capable of detecting the smallest known or anticipated UXO through the use of a test plot. Each piece of geophysical instrumentation shall be tested and the results documented within the UXO Work Plan.

i. A listing of all proposed training and training schedules.

j. Documented listing of archival information researched regarding the area of the proposed construction activities and, the known and suspected types of UXO that may be encountered.

k. Comprehensive reference material detailing the complete specifications, ordnance recognition charts, disarming instructions, unique characteristics, features, nature, peculiarity(ies), as well as lessons learned concerning each type and variant of UXO that is known or suspected to be encountered.

l. Utility locations and potential sources of Electromagnetic Radiation (EMR) in the radio frequency range originating from devices such as radio, radar, television transmitters, antennas, communication and radar devices.

m. The location of all potential sources of electromagnetic radiation (EMR) in the radio frequency range originating from devices such as radio, radar, and television transmitters, shall be documented. The appropriate agency(ies) or company(ies) responsible for their control, the means for their control, as well as full contact information for the appropriate and backup point-of-contact shall be listed.

n. Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, as well as section 01320 PROJECT SCHEDULE, the contractor shall provide a schedule in an appropriate level of detail to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis for all partial progress payments.

o. The procedures for destruction of recovered UXO recovered and the procedures for in-place, on-site, and off-site destruction of recovered UXO.

p. The procedures for Transportation of UXO detailing the route and measures that need be enacted prior to engaging in any transport activities as well as the how the Contractor intends to comply with Host Nation and US Laws.

q. The locations of temporary storage magazines for explosives.
r. The plan shall describe the inventory control system to be implemented for explosives management.

s. Bomb Dump Study Report. The Government is not aware of any existing bomb dump in the vicinity of the site. The Contractor, after coordination with the Contracting Officer and local authorities, shall establish and secure a bomb dump site. All characteristics of the site, security protocols, and operational procedures will be submitted in UXO Work Plan.

t. The Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

1.64.11.2 EXPLOSIVES SITING PLAN (ESP)

The ESP is a component of the Work Plan and shall be prepared for UXO support during construction activities. The ESP discusses the proposed minimum separation distances for unintentional detonations, intentional detonations, and siting of critical project components.

a. The ESP should describe the basis of design, all design calculations, and proposed hazard mitigation measures to be implemented to protect the public, non-project personnel, and site workers from explosive hazards.

b. The ESP will discuss the following explosives operations: Ordnance and explosive areas, explosives storage magazines, and planned or established demolition areas. The location of these explosives operations will be sited on a map with a minimum scale of 1 inch equals 400 feet. The minimum separation distances calculated for the operation should be discussed in the text of the plan and Quantity-Distance (Q-D) arcs for the above-listed project elements drawn on the map.

c. Quantity-Distance. Explosives safety distance tables prescribe the necessary separations and specify the maximum quantities for various classes of explosives permitted in any one location. These distances will be used for siting storage locations.

d. Ordnance and Explosive Areas. During intrusive operations, safe separation distances will be determined using two sets of minimum separation distance criteria. The first set of criteria shall be established for unintentional detonations (i.e., not planned in advance) and the second set of criteria shall be established for intentional detonations (i.e., planned, controlled detonations).

(1) Unintentional detonations: For an unintentional detonation, the applicable minimum separation distances are the minimum separation distances for unintentional detonations and the team separation distance (TSD). The minimum separation distance for unintentional detonations is the safe separation distance for non-project personnel from intrusive operations. The TSD is the distance that UXO teams must be separated during intrusive operations.

(2) Intentional Detonations: The minimum separation distance for intentional detonations is the distance that both project personnel and the public must be from the intentional detonation.

e. Explosives Storage Magazines: The ESP should provide the following information on explosives storage magazines:

(1) Type(s) of magazines used (e.g., Bureau of Alcohol, Tobacco and Firearms Classification Type 1-5, portable commercial, above ground, shed, earth covered, etc.).

(2) Net Explosive Weight (NEW) and hazard division to be stored in each magazine.

(3) Quantity-Distance (Q-D) criteria used to site the magazine.

(4) Design criteria for any proposed engineering controls to be used to mitigate exposures to the public when Q-D criteria cannot be met.

(5) Proposed placarding/signage for Magazines.

f. Planned or Established Demolition Areas. The safe separation distance for these areas will be based on the minimum separation distance criteria for intentional detonations.

g. Footprint Areas. The following footprint areas should be discussed in the ESP: In-place destruction (blow-in-place), collection points, and in-grid consolidated shots. These areas, however, do not have to be shown on the site map. The safe separation distances for these footprint areas are described in the following paragraphs.

(1) In-place destruction (blow-in-place). Blow-in-place is the preferred method for disposal of UXO. In-place destruction (blow-in-place) occurs when a UXO item is prepared and detonated in-place. The safe separation distances for In-place destruction (blow-in-place) areas will be determined using the minimum separation distance criteria for intentional detonations.

(2) Collection Points. Collection points are areas where recovered UXO that is safe to move is temporarily accumulated within a search grid pending relocation to another area for storage or destruction. Collection points

shall be limited to an amount of explosives to be destroyed that will not exceed safe separation distances. The safe separation distances for collection points will be determined using the minimum separation distance criteria for unintentional detonations.

(3) In-Grid Consolidated Shots. In-grid consolidated shots occur when recovered UXO that is safe to relocate is collected and destroyed within a search grid. In contrast to an established demolition ground, consolidated shots occur within a search grid rather than in a separate area.

h. The calculated minimum separation distances for unintentional detonations specified above are considered minimums for safe execution of normal operations.

1.64.11.3 SITE SAFETY AND HEALTH PLAN (SSHP)

The SSHP is a component of the Work Plan and shall be prepared for UXO support during construction activities. The SSHP specifically addresses UXO safety and health considerations and shall be site specific and include task-specific analyses. At a minimum the plan shall include the following:

a. The SSHP shall include all documentation necessary for strict compliance with the requirements stated in EM 385-1-1 SAFETY AND HEALTH REQUIREMENTS MANUAL.

b. A description of site-specific emergency clothing. This shall include a listing of acceptable clothing as well as clothing that is restricted and or prohibited during daily operations.

c. Specific safety considerations that are unique to each type and variant of known or suspected UXO.

d. Emergency response procedures and protocols. Procedures. UXO support activities may result in accidents or incidents, regardless of the safeguards implemented. The SSHP will describe site-specific emergency response procedures, including identification of all appropriate Point-of-Contacts (POC's).

e. Mishap Reporting, Incident Reports and Investigation Requirements. Site-specific reporting and investigation procedures, including identification of appropriate POC's.

f. Safety procedures, protocols and considerations.

g. Proposed medical examinations, surveillance and schedule.

h. Written copy of the safety indoctrination and training briefings given to all on-site personnel. This briefing should address the following:

(1) Probable site hazards

(2) Site-specific safety considerations.

(3) UXO safety support procedures.

(4) Responsibilities and lines of authority for any UXO-related response.

(5) Emergency response procedures.

i. In addition to requirements stated elsewhere, a specific Activity Hazard Analysis shall be completed for each type of equipment producing Electromagnetic Radiation (EMR) or Radio Frequency (RF). This includes but is not necessarily limited to all active and passive subsurface detection devices. As part of the Activity Hazard Analysis, the minimum separation distance between an EMR/RF emitting device and potential Electroexplosive Devices (EED) shall be calculated. This calculation shall be based on the following characteristics of the transmitting device and the potential EEDs:

(1) The transmitter frequency (f,in MHz).

(2) The peak envelope transmitting power (Pt, in W).

(3) The transmitter gain (GdB).

j. A copy of the letter to the UXO Safety Officer (UXOSO) signed by an authorized official of the firm which describes the responsibilities and authorities delegated to that individual including authority to stop work. The qualifications, specific training, knowledge, and experience of the individual proposed will be included as an attachment.

1.64.11.4 QUALITY CONTROL PLAN (QCP) AND CONTRACTOR QUALITY CONTROL REPORTS

a. The UXO Contractor shall submit a QUALITY CONTROL PLAN (QCP) for review and comment by the government. This QCP shall be in addition to and supplement the requirements of specification section 01451 CONTRACTOR QUALITY CONTROL. It shall outline the quality control activities that are to be used for continually assessing the implementation, effectiveness, compliance, and adequacy of UXO operations. At a minimum the QCP shall provide procedures for validation of the following:

(1) Surface clearance and related activities are conducted in accordance with accepted plans.

(2) Subsurface clearance and related activities are conducted in accordance with accepted plans.

(3) Actual probabilities of detection are consistent with clearance reliability levels.

(4) Subsurface clearance operations provide for an adequate level of confidence of UXO detection and removal to specified depths.

(5) Disposition of UXO.

(6) After action reports for unplanned UXO discoveries during construction.

b. In addition to the requirements stated in specification section 01451 CONTRACTOR QUALITY CONTROL, the UXO Contractor shall perform daily CQC reviews of all field activities and submit a supplemental CQC report that includes but is not necessarily limited to the following:

(1) A daily report of all activities associated with the identification, removal, transportation, and disposal of unexploded ordnance, including the number of response calls, identification procedures, removal procedures, transportation procedures, and disposal procedures.

(2) A map, at a scale approved by the Contracting Officer, that shows the location, type and status of all identified unexploded ordnance. Project sites, work areas, and lay down areas shall also be identified on this map.

(a) Horizontal Accuracy. Horizontally, 95 percent of all excavated items must lie within a 10-centimeter radius of their mapped surface location as marked in the field after reacquisition; 98 percent of all excavated items must lie within a 20-centimeter radius.

(3) A listing of all munitions and UXO components encountered to include positive identification and disposition.

(4) False Positives where UXO anomalies result in no detectable, metallic material during excavations.

c. A copy of the letter to the UXO Contractor Quality Control Officer signed by an officer or authorized official of the firm which describes the responsibilities and authorities delegated to that individual including authority to stop work. The qualifications, specific training, knowledge, and experience of the individual proposed will be included as an attachment.

1.64.12 Public Disclosure

The Contractor shall not publicly disclose any data generated or reviewed under this contract. The contractor shall refer all requests for information concerning site conditions to the Transatlantic Programs Center Public Affairs Office in Winchester, Virginia with a copy to the Contracting Officer. Reports and data generated under this contract are the property of the Department of Defense (DOD) and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.

1.64.13 Notification of Noncompliance

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

1.64.14 General Notes:

Geophysical instrumentation shall be capable of detecting the smallest known or anticipated UXO and may include: magnetometry (magnetometers and gradiometers), fluxgate magnetometers, optically pumped atomic magnetometers, electromagnetic detectors, frequency domain electromagnetics, and time domain conductivity electromagnetics.

UXO removal equipment may include supersonic excavator and/or skid-mounted self-contained air excavators

1.65 NOT USED

1.66 ATTACHMENTS

Appendix A - Exploration Data/Boring Logs (Attached file: ATB 01060 Appendix A.pdf)

ATB 01060 Appendix A.pdf

TAC FORM 61 - Accident Prevention Program Hazard Analysis

Tac61.pdf

SECTION 01321

DESIGN-BUILD NETWORK ANALYSIS SCHEDULES (NAS)

PART 1 GENERAL

1.1 DESCRIPTION

The network analysis system shall consist of the network analysis schedule (diagram) and associated reports. The scheduling of all design, procurement and construction shall be the responsibility of the Contractor. All design and construction increments will be interrelated on a single schedule that represents the entire project duration from Contract Award to the Contract Completion Date. Schedule updates will build upon each other and will include design and construction increments as they are detailed, submitted, and accepted. Submission of progress and revision data will be used to measure work progress, aid in the evaluation for requests for time extensions, and to provide the basis of all progress payments. The Critical Path Method (CPM) of network calculation shall be used to generate the project schedule and will utilize the Precedence Diagram Method (PDM) to satisfy both time and cost applications. All progress payment amounts will be derived from and tied to the cost-loaded schedule activities.

For consistency, when scheduling software terminology is used in this specification, the terms in Primavera's scheduling programs are used. Primavera Project Planner, P3, Primavera Project Manager, SureTrak and PrimeContract are registered trademarks or service marks of Primavera Systems, Inc. Adobe and Acrobat are registered trademarks of Adobe Systems Incorporated.

1.2 SUBMITTALS

A “G” following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a “G”. Only delete an existing “G” if the submittal item is not complex and can be reviewed through the Contractor’s Quality Control system. Only add a “G” if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.

Submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT:

SD-01 Preconstruction Submittals

Qualifications G

Standard Activity ID Dictionary

Design Network Analysis Schedule G

Construction Network Analysis Schedule G

Baseline Network Analysis Schedule G

SD-07 Certificates

Monthly Network Analysis Updates

Summary Network

SD-11 Closeout Submittals

As-Built Schedule

1.3 SCHEDULE ACCEPTANCE

Review comments made by the Government on the Contractor's schedule(s) will not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for scheduling, sequencing, and prosecuting the Work to comply with the requirements of the Contract Documents. Government acceptance extends only to the activities of the Contractor's schedule that the Government has been assigned responsibility for and agrees it is responsible. The Government will also review for contract imposed schedule constraints and conformance, and cost loading of the CPM activities. Comments offered on other parts of the schedule, which the Contractor is assigned responsibility, are offered as a courtesy and are not conditions of Government acceptance; but are for the general conformance with established industry schedule concepts.

1.3.1 Schedule Acceptance Prior to Start of Work

Unless stipulated otherwise as part of the Contract Award, the design work may be started prior to submittal and acceptance of the Design Network Analysis Schedule by the Government, but acceptance of the Design NAS will be a condition precedent to processing any pay requests submitted by the Contractor. The Baseline Network Analysis Schedule described in the paragraph entitled "Baseline Network Analysis Schedule" must be submitted and accepted by the Government before the Contractor will be allowed to start work on the construction stage(s) of the contract. Examples of construction stages are, but not limited to; demolition, site work, temporary work for construction, etc.

1.3.2 Acceptance

a. When the Design Network Analysis Schedule is submitted and accepted by the Contracting Officer it will be considered the "Baseline Network Analysis Schedule for Design". The Design Network Analysis Schedule shall be updated at least monthly or submitted as part of the design submittals, whichever occurs first. When the Construction Network Analysis Schedule is submitted and accepted by the Contracting Officer, it will then be considered the "Baseline Network Analysis Schedule". The Baseline Network Analysis Schedule will then be used by the Contractor for planning, organizing, and directing the work; reporting progress; and requesting payment for work accomplished. The schedule will be updated monthly by the Contractor and submitted monthly with the progress pay request to reflect the current status of the work. Submittal and acceptance of the Baseline Network Analysis Schedule for Design and Baseline Network Analysis Schedule and accurate updated schedules accompanying the pay requests are both conditions precedent to processing pay requests. Only bonds will be paid prior to acceptance of the Baseline Schedule(s).

b. Submittal of the Network, and subsequent schedule updates, will be understood to be the Contractor's representation that the submitted schedule meets all of the requirements of the Contract Documents, accurately reflects the work accomplished, and that Work will be executed in the sequence indicated on the submitted schedule.

1.4 SOFTWARE

The scheduling software that will be utilized by the Government on this project is Primavera Project Planner (P3) by Primavera Systems, Inc. Notwithstanding any other provision in the contract, schedules submitted for this project must be prepared using either Primavera P3 or Primavera SureTrak (files saved in Concentric P3 format). The Contractor shall provide electronic files saved in a format that is compatible with the Contracting Officer's current software version. Submission of data from another software system where data conversion techniques or software is used to import into Primavera's scheduling software is not acceptable and will be cause for rejection of the submitted schedule.

The Contractor shall furnish to the Government 1 licensable copy of the same version of Primavera Project Planner (P3) that the Contractor is using to prepare schedules for this project.

1.5 QUALIFICATIONS

The Contractor shall designate a part time Scheduler that will be responsible for the development, preparation, and maintenance of an accurate, computerized Network Analysis Schedule. Part time is defined as the Scheduler performing on-site coordination, attending project meetings, and updates in addition to other duties in a typical work week. The Scheduler shall have previously developed, created and maintained at least two (2) previous computerized schedules of similar

size and complexity of this contract. A resume outlining the qualifications of the Scheduler shall be submitted for acceptance to the Contracting Officer. If at a later date, the Contracting Officer considers the Contractor's Scheduler to be less competent than necessary or objects to the quality of the schedule preparation, the Contractor will propose a new Scheduler, meeting the qualification requirements. Payments will not be processed until an acceptable Scheduler is provided.

1.6 NETWORK SYSTEM FORMAT

The system shall consist of time scaled logic diagrams and specified reports.

1.6.1 Diagrams

Show the order and interdependence of activities and the sequence in which the work is to be accomplished as planned. The basic concept of a network analysis diagram will be followed to show how the start of a given activity is dependent on the completion of preceding activities and how its completion restricts or restrains the start of following activities. Diagrams shall be Work Phase/Work Area and sorted by Early Start Date and will show a continuous flow from left to right with no logic (relationship lines) from right to left. With the exception of the Contract Award, Project Start and Project Completion milestone activities, no activities will be open-ended; each activity will have predecessor and successor ties. The diagram shall clearly show the activities of the critical path. Once an activity exists on the schedule it may not be deleted and must remain in the logic. No more than 20 percent of the activities may be critical or near critical. Critical will be defined as having zero days of Total Float. "Near critical" will be defined as having Total Float in the range of 1 to 14 days. Show the following information on the diagrams for each activity:

a. Activity ID

b. Activity Description

c. Original Duration in Work Days

d. Remaining duration

e. Actual Duration in Work Days

f. Early Start Date

g. Early Finish Date

h. Total Float

Provide network diagrams on ANSI E sheets. Updated diagrams shall show the date of the latest revision.

1.6.2 Schedule Activity Properties and Level of Detail

Numbering shall be assigned so that, in general, predecessor activity numbers are smaller numerically than the successor activity numbers. Skip numbering shall be used on the network to allow insertion of additional activities for contract modifications and logic changes. The minimum number of construction activities in the final network diagram shall be 500. Activity categories included in the schedule are specified below.

1.6.2.1 Activity Categories

a. Design Activities: Requirements for the activities related to design shall be included as separate activities in the project schedule. Design activities shall include, but are not limited to; the Design Notice to Proceed, Contractor's various stages of design, application for and receipt of permits required, Contractor's constructability reviews, submittal of design packages to Government, Government's design review periods, specified design meetings, transition periods prior to Construction Notice to Proceed, (including Notices to Proceed for each Fast-Track Phased Design as indicated in Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD PROJECT and as directed by the Contracting Officer). The Government review period shall be from the time the design is received by the Government to the time it is sent back to the Contractor; mail time will not be included in the Government review period. Design activities will be linked to their associated Procurement and/or Construction Activities.

If the Government's action on any submittal requires resubmission or does not clear the design for construction, a new series of Design Activities will be inserted into the schedule. Predecessor for the new design preparation activity will be the original approval activity and the successor of the new approval activity will be the next design step (in-progress or final) activity.]

b. Procurement Activities: Tasks related to the procurement of material or equipment shall be included as separate activities in the project schedule. Examples of procurement activities include, but are not limited to; Material/equipment submittal preparation, submittal and approval of material/equipment; delivery of O&M manuals; material/equipment fabrication and delivery, delivery of extra parts, extra stock, special tools, notification of Government Furnished Material/Equipment delivery requirement, etc. As a minimum, separate procurement activities will be provided for every specification section. If the Contractor intends on using Just-In-Time (JIT) delivery methods, the schedule will show each JIT delivery with relationship tie to the Construction Activity specifically for the JIT delivery. Material and equipment for which payment will be requested in advance of installation shall be cost-loaded with the procurement costs. All activities within a procurement process/cycle will have a unique identifier in the activity code to show their relationships and will extend to the related construction activities (i.e., CSI Code).

If the Government's action on any submittal requires resubmission or does not clear the design for construction, a new series of Procurement Activities will be inserted into the schedule. Predecessor for the new submittal preparation activity will be the original approval activity and the successor of the new approval activity will be the fabrication/deliver activity for the equipment or material.

c. Government Activities: Government and other agency activities that could impact progress shall be clearly identified. Government activities include, but are not limited to; Government submittal reviews, Government conducted inspections/tests, environmental permit approvals by in-country regulators, utility outages, Notice(s) to Proceed, and delivery of Government Furnished Material/Equipment. Show activities indicating Government furnished materials and equipment utilizing delivery dates indicated in "FAR 52.245-2, Government Property (Fixed-Price Contracts)." Government activities will be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-work days.

d. Construction Quality Management (CQM) Activities: CQM Activities will identify the Preparatory Phase and Initial Phase for each Definable Feature of Work identified in the Contractor's Quality Control Plan. These activities will be added to each 3-Week Look Ahead Schedule referenced in the paragraph entitled "THREE-WEEK LOOK AHEAD SCHEDULE" and will also be included in each monthly update referenced in the paragraph entitled "Monthly Network Analysis Updates". The Follow-up Phase will be represented by the Construction Activities in the Baseline Schedule and in the schedule updates.

e. Construction Activities: Construction activities shall include, but are not limited to: Tasks related to mobilization or demobilization; the installation of temporary or permanent work by tradesman; testing and inspections of installed work by technicians, inspectors or engineers; start-up and testing of equipment; commissioning of building and related systems; scheduling of specified manufacture's representatives; Punch Out Inspection; Pre-Final Inspection, Final Acceptance Inspection; final clean-up; training to be provided; and administrative tasks necessary to start, proceed with, accomplish or finalize the contract. No onsite construction activity shall have a duration in excess of 20 working days. Contractor activities will be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-work days.

1.6.2.2 Project Milestones

Dates shall be shown on the diagram for the start of the project, any contract required interim start and completion dates, contract completion date and other significant milestones.

a. Project Start Date Milestones: The schedule shall start no earlier than the Contract Award Date and the project duration (Day 1) will start on the Notice-to-Proceed (NTP) date. The Contractor shall include as the first milestone in the schedule,

an activity named "Contract Award". Another milestone shall be included that will be named "Start Project". Additional milestones shall be included for Design NTP for each design increment and Construction NTP for each construction increment. The Contract Award and Project Start milestones shall have mandatory start constraint dates equal to the Contract Award and NTP dates, respectively.

b. Constraint of Last Activity Milestone: The Contractor shall include as the last activity in the project schedule, an activity named "End Project". The "End Project" activity shall have a mandatory finish constraint equal to the contract completion date for the project. Calculation of project updates shall be such that if the finish of the last activity falls after the contract completion date, then the float calculation shall reflect negative float on the critical path.

c. Early Project Completion: In the event the Contractor's project schedule shows completion of the project prior to the contract completion date, the Contractor shall include an activity named "Contractor Early Completion". The activity shall be a milestone with an unconstrained date representing the Contractor's Early Completion date.

d. Substantial Completion: If the Contractor elects to include an activity for Substantial Completion, then it is agreed that Substantial Completion will be the point in time that the Government considers the project is complete and ready for its intended use. The activity will be named "Substantial Completion". The activity shall be a milestone with an unconstrained date representing the Contractor's Substantial Completion date.

1.6.2.3 Critical Activities

The following activities, when applicable, shall be listed as separate line activities on the Contractor's project schedule:

a. Submission and approval of mechanical/electrical layout drawings.

b. Submission and approval of O&M manuals

c. Submission and approval of as-built drawings

d. Submission and approval of 1354 data and installed equipment lists

e. Submission and approval of testing and air balance (TAB).

f. Submission and TAB specialist design review support.

g. Submission and approval of fire protection specialist

h. Submission and approval of testing and balancing of HVAC plus commissioning plans and data

i. Air and water balance dates

j. HVAC commissioning dates

k. Controls testing plan

l. Controls testing

m. Performance Verification testing

n. Other systems testing, if required

o. Pre-final inspection

p. Correction of punch-list from pre-final inspection

q. Final inspection

1.6.2.4 Activity Identification (ID) and Description

a. Standard Activity ID Dictionary: The Contractor shall submit the coding scheme for Schedule Activity Numbers that shall be used throughout the project. The coding scheme submitted shall list the values for each activity code category and translate those values into project specific designations. Code length shall not exceed 10 characters. Once accepted, the coding scheme will be used for the duration of the project.

b. Activity Description: Each activity shall have a narrative description consisting of a Verb or work function (e.g.; form, pour, excavate), an Object (e.g.; slab, footing, under floor plumbing), and Area (e.g.; 3rd floor, northeast quadrant, basement).

1.6.2.5 Standard Activity Coding Dictionary

The Contractor shall use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11, Appendix A. This exact structure is mandatory, even if some fields are not used.

1.6.2.6 Cost and Resource Loading

a. Cost Loading Activities: Costs for incremental design preparation will be assigned to the respective design phase submittal milestone(s). Equipment costs will be assigned to their respective Procurement Activities (i.e., the delivery milestone activity). Costs for installation of the material/equipment (labor, construction equipment, and temporary materials) will be assigned to their respective Construction Activities. The value of inspection/testing activities will not be less than 10 percent of the total costs for Procurement and Construction Activities. Evenly disperse overhead and profit to each activity over the duration of the project. The total of all cost loaded activities; including costs for material and

equipment delivered for installation on the project, and labor and construction equipment loaded construction activities, shall total to 100 percent of the value of the contract.

b. Quantities and Units of Measure: Each cost loaded activity will have a detailed breakdown of the contract price, giving quantities for each of the various kinds of work, unit prices, etc.

c. Labor Resource Loading: As part of the Baseline Schedule development each construction activity shall have an estimate of the number of workers per day by trade, hours per day by trade and total expected hours used by trade during the execution of the activity. If no workers are required for an activity, then the activity shall be identified as using zero workers per day. Actual labor resource expended on an activity will be recorded in the monthly updated schedules and will coincide with entries made in the Daily Reports.

d. Equipment Resource loading: As part of the Baseline Schedule development each construction activity shall have an estimate of the equipment used per day, number of units per day and total expected hours for each piece of equipment used during the duration of the activity. Include a description of the major items of construction equipment planned for each construction activity on the project. The description shall include the year, make, model, and capacity. If no equipment is required for an activity, then the activity shall be identified as using zero equipment per day. Actual equipment resource expended on an activity will be recorded in the monthly updated schedules and will coincide with entries made in the Daily Reports.

1.6.2.7 Anticipated Weather Delays

Schedule activity duration(s) shall be formulated with allowance for normal adverse weather conditions. Any activity duration, which could be impacted by normally anticipated adverse weather (precipitation, high or low temperature, wind, etc.), due to the time period that the Contractor has scheduled the work, shall include an adjustment to include the anticipated weather delay. The number of anticipated adverse weather delays allocated to an activity will be reflected in the activity's calendar. A lost workday, due to weather conditions, is defined as a day in which the Contractor's workforce cannot work 50 percent or more of the day. The Contractor shall immediately notify the Contracting Officer when a lost day has occurred due to weather and will record on the Daily Reports, the occurrence of adverse weather and resultant impact to the normally scheduled work. If the number of actual adverse weather delay days exceeds the number of days anticipated, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days and issue a modification in accordance with the contract clauses.

1.6.2.8 Schedule Software Settings and Restrictions

a. Activity Constraints: Date/time constraint(s), other than those required by the contract, will not be allowed unless accepted by the Contracting Officer. Contractor will identify any constraints proposed and provide an explanation for the purpose of the constraint in the Narrative Report.

b. Lags: Lags will not be used when the creation of an activity will perform the same function (e.g., concrete cure time). Lag durations contained in the project schedule shall not have a negative value. Contractor will identify any lag proposed and provide an explanation for the purpose of the lag in the Narrative Report.

c. Default Progress Data Disallowed: Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in the CPM scheduling software system. Actual Start and Actual Finish dates on the CPM schedule shall match the dates provided from Contractor Quality Control and Production Reports. These reports will be the sole basis for updating the schedule. Work activities will be updated by actual work progression rather than being cash flow driven. Actual labor and equipment hours used on activities will be derived from the Daily Reports.

d. Software Settings: The updating of percent of payment and actual to date of any activity shall be independent functions; program features that calculate one of these parameters from the other shall be disabled. Schedule calculations and Out-of-Sequence progress (if applicable) shall be handled through Retained Logic, not Progress Override. All activity durations and float values will be shown in days; time will not be shown in the duration display. Date format will be DDMMMYY (i.e., 11DEC02). Default activity type will be set to "Task".

1.6.3 Required Tabular Reports

The following reports will be based on the information in the paragraph entitled "Diagrams" and included with the schedule submittals and in each updated schedule submission provided on disk by the Contractor:

a. Earned Value Report: Listing all activities having a budget amount and cost. A compilation of total earnings on the project from the notice to proceed to the most recent monthly progress payment request and the difference between the previous request amount and the current payment request amount. Sort report first by resource and then by activity.

b. Log Report: With each updated schedule submission, provide a computer generated Log Report using a recognized schedule comparison software listing all changes made between the previous schedule and current updated schedule. Identify the name of the previous schedule and name of the current schedule being compared. This report will as a minimum show changes for: Added & Deleted Activities, Original Durations, Remaining Durations, Activity Percent Complete, Total Float, Free Float, Calendars, Descriptions, Constraints (added, deleted or changed), Actual

Starts/Finishes, Added/Deleted Resources, Resource Quantities, Costs, Resource Percents, Added/Deleted Relations, Changed Relation Lags, Changed Driving Relations, and Changed Critical Status.

c. Activity ID Report: By activity number in ascending order showing the current status of all activities.

d. Total Float Report: List of all activities by total float in ascending order and then in order of activity number.

e. Early Start Report: By earliest allowable start dates and then in order of activity number.

f. 30-Day Look Ahead: Activities in progress or scheduled to start or finish within the next 30 calendar days of the project Data Date or is continuing through the 30 day period.

g. Predecessor/Successor Report: By activity number from lowest to highest, showing preceding and succeeding activity numbers for each activity and showing the current status of each activity.

h. Labor Staffing Report and Histogram: With each Baseline Network Analysis Schedule submittal and each updated schedule, a planned early and planned late versus actual labor resource report and histogram will be provided. The report and histogram shall be based upon and shall be in agreement with, the number of shifts and crew sizes by craft, in the Baseline Network Analysis Schedule (planned) and the Monthly Network Update (actual). Included in the report will be a tabular listing of each trade that worked on the activities during the construction period.

1.7 SUBMISSION AND ACCEPTANCE

1.7.1 Preliminary Meeting

Prior to the preparation of the Construction Network Analysis Schedule for acceptance; the Contracting Officer, Contractor and the scheduler shall participate in a preliminary meeting to discuss the proposed schedule and requirements of this section prior to submission of the network.

1.7.2 Design Network Analysis Schedule

Submit the Design Network Analysis Schedule defining the planned operations during the design phase(s) of the contract. The general (summarized) approach for the construction phase(s) of the project shall also be indicated. Cost of activities expected to be completed or partially completed before submission of the Baseline Network Analysis Schedule shall be included. Submit three copies of both the design network diagrams and reports listed in paragraph entitled "Required Tabular Reports." In accordance with paragraph entitled "Monthly Network Analysis Updates" the design network may be used for requesting progress payments for a period not to exceed the design phase(s) of the contract. Submittal and acceptance of the Design

Network Analysis Schedule is condition precedent to the processing of the Contractor's pay requests on this schedule. The activities and relationships of the design schedule shall coincide and mesh with the activities of the Baseline Network Analysis Schedule. As part of this submittal, provide the Project Name format (and Project Group Name if used) that will be used by the Contractor to identify initial schedule submittals, updates, fragnets, changes, etc. The project schedule will also be posted in the format specified as an Adobe PDF file with no relationship lines displayed in the graphic. Include one (1) copy of the Design Network Analysis Schedule on electronic media that is acceptable to the Contracting Officer.

1.7.3 Construction Network Analysis Schedule

Submit three (3) copies of the diagrams described in the paragraph entitled "Diagrams" and the reports listed in the paragraph entitled "Required Tabular Reports". As part of this submittal, provide the Project Name format (and Project Group Name if used) that will be used by the Contractor to identify initial schedule submittals, updates, fragnets, changes, etc. The project schedule will also be posted in the format specified as an Adobe PDF file with no relationship lines displayed in the graphic. Include one (1) copy of the Construction Network Analysis Schedule on electronic media that is acceptable to the Contracting Officer.

1.7.4 Review and Evaluation

After the Government's review(s) of the Design Network Analysis Schedule and Construction Network Analysis Schedule, the Contractor shall meet with the Contracting Officer to discuss the review and evaluation of the NAS submittal. Revisions necessary as a result of this review shall be resubmitted for acceptance within 10 calendar days after the meeting.

1.7.5 Baseline Network Analysis Schedule

Once review comments are resolved and the Contracting Officer has accepted the Design Network Analysis Schedule and Construction Network Analysis Schedule, the Contractor shall within 5 calendar days furnish:

a. Two (2) copies of the network diagrams.

b. Two (2) copies of the reports listed in paragraph entitled "Required Tabular Reports".

c. Two (2) copies of the Cash Flow S-Curve indicating the cash flow based upon both the projected early and late finish dates.]

d. Two (2) sets of data disks containing the project schedule shall be provided for the initial submission and every periodic project update. The project schedule will also be posted in the format specified as an Adobe PDF file with no relationship lines displayed in the graphic. Data shall be submitted on electronic media that is acceptable to the Contracting Officer. A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Design NAS,

Construction NAS, Baseline, Update, Recovery, Change, etc.), full contract number, Project Name used to identify project in scheduling software, contract name & location, data status date, diskette number with total number of diskettes in set, software name and version used to run the schedule, and the name and telephone number of person responsible for the schedule.

For major revisions, updates or changes to the network diagrams, once accepted by the Contracting Officer, the Contractor shall submit these same diagrams and reports.

1.7.6 Monthly Network Analysis Updates

At monthly intervals the Contractor and Government representatives will meet to jointly update the project schedule and agree on percentage of payment for each activity progressed during the update period. The purpose of the meeting is to determine progress payment amounts for each activity, allow all parties to evaluate project status at the data date, provide a complete and accurate update of design, procurement and construction progress, create an historical record of the project and establish prediction of completion date(s) based upon current status. The Contractor is responsible to gather all supporting documentation, present the update data for the schedule and record the meeting minutes. All progress payment amounts will be derived from and tied to the cost-loaded schedule activities. Submit at monthly intervals a report of the actual design and construction progress by updating the required reports and the time scaled logic diagram. Meeting to update the schedule and the submission of an error free, acceptable updated schedule to the Government is a condition precedent to the processing of the Contractor's pay request. As a minimum, the following actions will be accomplished during the meeting:

a. Identify activities started and completed during the previous period and enter the Actual Start and Actual Finish dates. It will be understood that Actual Start is defined as the date that work begins on an activity with the intent to pursue the work represented by the activity to substantial completion, and Actual Finish is defined as the date that the activity's work is substantially complete to the point that its successor activity(s) may begin.

b. Show estimated duration (in workdays) to complete each activity started but not completed (remaining duration).

c. Indicate percentage of cost payable and percent of work complete as separate and independent entries for each activity. The assignment of an Actual Finish date to an activity does not imply that the activity's percent of payment will be statused to 100%.

d. Reflect changes in the network diagram. All changes (i.e., remaining duration changes, logic changes, new logic, conformed change orders, new activities, changes due to Conformed Modifications, changes in work sequence, entry of as-built relationship logic, etc.) shall be recorded and a note added to

the activity log field. The log shall include as a minimum, the date and reason for the change, and description of the change.

e. Submit two (2) copies of a Narrative Report describing: 1) Progress made in each area of the project; 2) Changes in the following; activities, original durations, logic interdependencies, milestones, planned sequence of operations, critical path, and resource and loading; 3) Pending items and status thereof, including permits, change orders, and time extensions; 4) Status of Contract Completion Date and interim milestones; 5) Current and anticipated delays (describe cause of the delay and corrective action(s)); and 6) Description of current and future schedule problem areas. Each entry in the narrative report will cite the respective Activity ID and Activity Description.

f. Submit two (2) copies of the reports listed in paragraph entitled "Required Tabular Reports".

g. Two (2) hard copies of the network diagrams and two (2) sets of data disks.

h. Submit two (2) copies of the Update Meeting minutes.

1.7.7 Summary Network

A summary network shall have the same network format as the Baseline Network Analysis Schedule. The summary network will contain a minimal number of activities that represent the general approach of work sequence. The Summary will be a time-scaled logical sequence of Phase Code. The Contractor shall submit a summary network diagram along with the Baseline Network Analysis Schedule. A summary network update shall be submitted every three (3) months during the contract duration and immediately following acceptance of each major schedule change. Submit the following:

a. Two (2) copies of the summary network diagram.

b. Two (2) copies of the Activity ID Report.

c. Two (2) copies of the Total Float Report.

d. Two (2) copies of the Earned Value Report indicating the actual cash flow for the current updated (not summary) network based upon both the early and late start schedules.

1.7.8 As-Built Schedule

As a condition precedent to the release of retention and making final payment, the Contractor shall submit an "As-Built Schedule", which is the last schedule update. The As-Built Schedule shall reflect the exact manner in which the project was actually constructed (including actual start and finish dates, activities, sequences, and logic) and shall be certified by the Contractor's Project Manager and Construction

Scheduler as being a true reflection of the way the project was actually constructed. If more than one person filled the position(s) during the course of the project, each person will provide certification for the period of time they were responsible.

1.8 CONTRACT MODIFICATION

When a contract modification to the work is required, submit proposed revisions to the network with a fragnet and a cost proposal for each proposed change. All modifications shall be incorporated into the network analysis system as separately identifiable activities broken down and inserted appropriately on the first update following issuance of a directive to proceed with the change. Submit two (2) copies of the Total Float Report, Log Report and a copy of the proposed Time Impact Analysis on disk, with the cost proposal. Unless the Contracting Officer requests otherwise, only conformed contract modification fragnets will be added into the subsequent monthly updates. All revisions to the current baseline schedule activities that are necessary to further refine the schedule so that the changed work activities can be logically tied to the schedule shall be made. Financial data shall not be incorporated into the schedule until the Contracting Officer signs the contract modification.

1.8.1 Time Impact Analysis:

The Time Impact Analysis method shall be used by the Contracting Officer and Contractor in determining if a time extension or reduction to the contract milestone date(s) is justified. The Contractor shall provide a Time Impact Analysis to the Contracting Officer for any proposed contract change or as support for a Value Engineering Proposal, Variance Request, Claim or Request for Equitable Adjustment by the Contractor. Submit the Time Impact Analysis schedule, reports, etc. on disk and as a printed/plotted hardcopy.

a. The Contractor shall submit a Time Impact Analysis (TIA) illustrating the influence of each change or delay on the Contract Completion Date or milestones. Unless the Contracting Officer requests an interim update to the schedule, the current monthly updated schedule accepted by the Government shall be used to display the impacts of the change. Unless requested by the Contracting Officer, no other non-conformed changes will be incorporated into the schedule being used to justify the change impact.

b. Each TIA shall include a Fragmentary Network (fragnet) demonstrating how the Contractor proposes to incorporate the impact into the project schedule. A fragnet is defined as the sequence of new activities and/or activity revisions, logic relationships and resource changes that are proposed to be added to the existing schedule to demonstrate the influence of impacts to the schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. The Contractor shall provide a hardcopy printout of the fragnet activities and relationships being added and also

insert the fragnet into the most current, accepted Monthly Network Analysis Update, run the schedule calculations and submit the impacted schedule with the proposal, claim, etc. Include a narrative report describing the effects of new activities and relationships to interim and contract completion dates, with each TIA. Submit time extension requests with a Time Impact Analysis and three hardcopies of the fragnet, impacted schedule (with fragnet loaded), Total Float Report, Narrative Report and Log Report.

c. Following the Contractor's receipt of a contract modification on a Standard Form 30 signed by the Government; all changes in the fragnet used to determine impacts, shall be incorporated into the schedule. Changes will occur during the next monthly schedule update meeting.

1.8.2 No Reservation-Of-Rights

All direct costs, indirect costs, and time extensions will be negotiated and made full, equitable and final at the time of modification issuance.

1.9 CHANGES TO THE NETWORK ANALYSIS SCHEDULE

If changes in the method of operating and scheduling are desired, the Contracting Officer shall be notified in writing stating the reasons for the change. If the Contracting Officer considers these changes to be of a major nature, the Contractor may be required to revise and submit for acceptance, without additional cost to the Government, the network diagrams and required reports. A change may be considered of a major nature if the estimated time required or actually used for an activity or the network logic has varied from the original plan to a degree that there is a reasonable doubt as to the effect on the contract completion date(s) or phase completion dates. Changes that affect activities with adequate float time shall be considered a major change when their cumulative effect could extend the contract completion date.

1.10 FLOAT

Use of float suppression techniques, such as; preferential sequencing (arranging critical path through activities more susceptible to Government caused delay), lag logic restraints, zero total or free float constraints, extended activity times, or imposing constraint dates other than as required by the contract, shall be cause for rejection of the project schedule or its updates. The use of Resource Leveling (or similar software features) used for the purpose of artificially adjusting activity durations to consume float and influence the critical path is expressly prohibited.

1.10.1 Definitions of Float

Free Float is the length of time the start of an activity can be delayed without delaying the start of a successor activity. Total

Float is the length of time along a given network path that the actual start and finish of activity(s) can be delayed without delaying the project completion date. Project Float is the length of time between the Contractor's Early Completion (or Substantial Completion or similar activity) and the Contract Completion Date.

1.10.2 Ownership of Float

Float available in the schedule, at any time shall not be considered for the exclusive use of either the Government or the Contractor. During the course of contract execution, any float generated due to the efficiencies of either party is not for the sole use of the party generating the float; rather it is a shared commodity to be reasonably used by either party. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather is less than expected, will also contribute to the reserve of float. A schedule showing work completing in less time than the Contract time, and accepted by the Government, will be considered to have Project Float. Project Float will be a resource available to both the Government and the Contractor. No time extensions will be granted nor delay damages paid unless a delay occurs that impacts the Project's critical path, consumes all available float or contingency time, and extends the work beyond the Contract Completion Date.

1.10.3 Negative Float

Negative float will not be a basis for requesting time extensions. Any extension of time will be addressed in accordance with the paragraphs entitled "CONTRACT MODIFICATION". Scheduled completion date(s) that extend beyond the contract or phase completion date(s) (evidenced by negative float) may be used in computations for assessment of payment withholdings. The use of this computation is not to be construed as a means of acceleration.

1.11 THREE-WEEK LOOK AHEAD SCHEDULE

To provide a more detailed day-to-day planning of upcoming construction work, the Contractor shall prepare and issue detailed work plans that coordinate with and supplement the above defined network analysis. The work plans shall be keyed to the CPM activity numbers and shall be submitted each week and shall show the project activities that will occur during the current and following two-week interval. Additionally, the critical path activities are to be identified on the 3-Week Look Ahead Schedule. The schedule will be a bar chart type schedule prepared by the Contractor in sufficient detail to define the work to be accomplished, the crews, construction tools and equipment to be used during the current and next two-week interval. The bar charts shall be formatted to allow reproduction on 8 1/2 by 11 sheets. Three copies of the bar chart schedules shall be delivered to the Contracting Officer not less than 3 work hours prior to the start of the weekly coordination meeting.

1.12 WEEKLY COORDINATION MEETING

In conjunction with the receipt of the 3-Week Look Ahead Schedule, a coordination meeting will be held each week on-site to discuss the work schedule. The Contractor shall make a presentation of the previously submitted and current 3-Week Look Ahead Schedule to the Contracting Officer so as to provide an overview of the project's schedule and provide an opportunity to discuss items of coordination. Consideration of materials, crews, and equipment shall be addressed to ascertain their respective availability. The meeting shall identify actions necessary to provide adherence to the 3-Week Look Ahead Schedule and the overall network for the project defined above. The Contractor will take meeting minutes. All meeting minute entries will be keyed to the schedule activity number(s) being addressed. Within one day of the meeting, the Contractor will provide a draft copy of the meeting minutes to the Contracting Officer for review and comment. Final copies of the minutes containing the comments provided by the Contracting Officer will be issued within 3 days of the meeting.

1.13 CORRESPONDENCE AND TEST REPORTS

All correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs, etc.) shall reference the Schedule Activity Number(s) that are being addressed. All test reports (e.g., concrete, soil compaction, weld, pressure, etc.) shall reference the Schedule Activity Number(s) that are being addressed.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01335

SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECT

PART 1 GENERAL

1.1 REFERENCE

The publication listed below forms a part of this specification to the extent referenced. The publication is referenced in the text by basic designation only.

CONSTRUCTION SPECIFICATIONS INSTITUTE

Manual of Practice, Construction Specifications Institute, 601 Madison Street Alexandria, Virginia 22314-1791

TRANSATLANTIC PROGRAMS CENTER

Design Instructions Manual, U.S. Army Corps of Engineers Transatlantic Programs Center, 201 Prince Frederick Drive Winchester, Virginia 22602

1.2 SUBMITTAL CODING & CLASSIFICATION

A “G” following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a “G”. Only delete an existing “G” if the submittal item is not complex and can be reviewed through the Contractor’s Quality Control system. Only add a “G” if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Recommended codes for Army projects are "RE" for Resident Engineer approval, "ED" for Engineering approval, and "AE" for Architect-Engineer approval. Codes following the "G" typically are not used for Navy projects.

Submittals not having a "G" designation are for information only.

Submittals are classified as follows:

1.2.1 DESIGN SUBMITTALS

Contractor Furnished design submittals are the various design documents which primarily consist of specifications, drawings and design analysis and calculations. The Design-Build Contractor shall not begin construction work until the Government has reviewed the Design-Build Contractor's final design and has cleared it for construction. Clearance for construction shall not be construed as meaning Government approval. Unless otherwise indicated, the risk for the design is the sole responsibility of the Design-Build Contractor.

1.2.2 CONSTRUCTION SUBMITTALS

1.2.2.1 Contractor Furnished Government Approved Construction Submittals

Government approved construction submittals are primarily related to plans (Contractor Quality Control, Accident Prevention, Resident Management System, Area Use etc) schedules (Project Schedule/Network Analysis), and certificates of compliance. They may also include proposed variations to approved design documents in accordance with the paragraph entitled "VARIATIONS".

1.2.2.2 For-Information-Only Construction Submittals (FIO)

All submittals not requiring Designer of Record or Government approval will be for information only.

1.3 SUBMITTAL CERTIFICATION

The CQC organization shall be responsible for certifying that all submittals and deliverables have been reviewed in detail for completeness are correct, and are in strict conformance with the contract and or approved design drawings, specifications, and reference documents.

1.3.1 Effective Quality Control System

The Design-Build Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with Contract Clause 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION ALTERNATE I and Request for Proposal Section 01450 DESIGN AND CONSTRUCTION QUALITY CONTROL.

1.3.1.1 Organizational Responsibility

The quality control system shall cover all design, construction, subcontractor, manufacturer, vendor, and supplier operations at any tier, both onsite and offsite.

1.3.1.2 QC System Manager Review and Approval

Prior to submittal, all items shall be checked and approved by the Design-Build Contractor's Quality Control (QC) System Manager. If found to be in strict conformance with the contract and approved design requirements, each item shall be stamped, signed, and dated by the QC System Manager. Copies of the QC organizations review comments indicating action taken shall be included within each submittal.

1.3.1.3 Determination of Compliance

Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract and approved design requirements by the Contracting Officer.

1.3.2 Responsibility for Errors or Omissions

It is the sole responsibility of the Design-Build Contractor to ensure that submittals do or do not comply with the contract and approved design documents. Government review, clearance for construction, or approval by the Contracting Officer shall not relieve the Design-Build Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract and approved design documents.

1.3.2.1 Government Review

Government review, clearance for construction, or approval shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory.

1.3.3 Substitutions

After design submittals have been reviewed and cleared for construction by the Contracting Officer, no re-submittal for the purpose of substituting materials or equipment will be considered unless justified as indicated in the paragraph entitled VARIATIONS.

1.3.4 Additional Submittals

In conjunction with Contract Clause 52.236-5 MATERIAL AND WORKMANSHIP, the Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work.

1.3.5 Untimely and Unacceptable Submittals

If the Design-Build Contractor fails to submit submittals in a timely fashion, or repetitively submits submittals that are not in strict conformance with the contract and approved design documents, no part of the time lost due to actions shall be made the subject of claim for extension of time or for excess costs or damages by the Design-Build Contractor.

1.3.6 STAMPS

Stamps shall be used by the Design-Build Contractor on all design and post design construction submittals to certify that the submittal meets contract requirements and shall be similar to the following:

Design-Build Contractor
(Firm Name) Contract Number Contract Name

I certify that this submittal accurate, is in strict conformance with all contract requirements, has been thoroughly coordinated and cross checked against all other applicable disciplines to prevent the omission of vital information, that all conflicts have been resolved, and that repetition has been avoided. It is complete and in sufficient detail to allow ready determination of compliance with contract requirements by the Contracting Officer.

Name of CQC System Manager: _____

Signature of CQC System Manager: _____

Date: _____

1.4 ENGLISH LANGUAGE

All specifications, drawings, design analysis, design calculations, shop drawings, catalog data, materials lists, and equipment schedules submitted shall be in the English language.

1.5 UNITS OF MEASUREMENT

Design documents shall be prepared in accordance with the guidance offered in SECTION 01415 METRIC MEASUREMENTS.

1.5.1 Drawings

All site layout data shall be dimensioned in meters or coordinates, as appropriate. All details and pipe sizes shall be dimensioned in millimeters.

EXAMPLE: Masonry openings shall be a U.S. module to suit a standard U.S. door. The dimensions of the opening shall be given in metric.

1.5.2 Design Calculations

Calculations shall be in English or metric units as deemed appropriate by the designer to meet the requirements of the design. Quantities on the contract and or approved design drawings stated in metric units, shall also be stated in metric units in the design analysis to match the drawings.

1.5.3 Specifications

All equipment and products shall be specified by U.S. standards and described by metric units.

1.6 WITHHOLDING OF PAYMENT FOR SUBMITTALS

1.6.1 Design Submittals

Payment for Design work will not be made in whole or in part until the Government has reviewed and cleared the design for construction.

1.6.2 Construction Submittals

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. The Design-Build Contractor is allowed partial or total invoice payment for materials shipped from the Continental United States (CONUS), and/or stored at the site, the Design-Build Contractor shall with his request for such payment, submit copies of approvals (ENG Form 4025) certifying that the materials that are being shipped and/or stored have been approved and are in full compliance with the contract technical specifications.

PART 2 PRODUCTS

2.1 General

The following are contract deliverables which expound upon and finalize the design parameters/requirements outlined within the contract documents. They shall be prepared in such a fashion that the Prime Contractor is responsible to the Government and not as an internal document between the Prime Contractor and its Subcontractors, Vendors, Suppliers, etc.

2.2 Design Analysis

A design analysis, written in the English Language with English units of measure (and metric units in parenthesis), shall be submitted for review by the Government. The design analysis is a written explanation of the project design which is expanded and revised (updated) as the design progresses. The design analysis shall contain all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the final drawings and specifications. The design analysis contains the criteria for and the history of the project design, including criteria furnished by the Government, letters, codes, references, conference minutes, and pertinent research. Design calculations, computerized and manual, are included in the design analysis. Narrative descriptions of design solutions are also included. Written material may be illustrated by diagrams and sketches to convey design concepts. Catalog cuts and manufacturer's data for all equipment items, shall be submitted. Copies of all previous design phase review comments and the actions assigned to them shall be included with each submission of the design analysis. Specific requirements for the design analysis, listed by submittal phase, are contained hereinafter.

2.3 Design Calculations

When design calculations are voluminous, they shall be bound separately from the narrative part of the design analysis. The design calculations shall be presented in a clean and legible form incorporating a title page and index for each volume. A table of contents, which shall be an index of the indices, shall be furnished when there is more than one volume. The source of loading conditions, supplementary sketches, graphs, formulae, and references shall be identified.

Assumptions and conclusions shall be explained.

Calculation sheets shall carry the names or initials of the computer and the checker and the dates of calculations and checking. No portion of the calculations shall be computed and checked by the same person.

2.3.1 Automatic Data Processing Systems (ADPS)

When ADPS are used to perform design calculations, the design analysis shall include descriptions of the computer programs used and copies of the ADPS input data and output summaries. When the computer output is large, it may be divided into volumes at logical division points.

2.3.1.1 Computer Printouts

Each set of computer printouts shall be preceded by an index and by a description of the computation performed. If several sets of computations are submitted, they shall be accompanied by a general table of contents in addition to the individual indices.

2.3.1.2 Preparation of the Description

Preparation of the description which must accompany each set of ADPS printouts shall include the following:

a. Explain the design method, including assumptions, theories and formulae.

b. Include applicable diagrams, adequately identified.

c. State exactly the computation performed by the computer.

d. Provide all necessary explanations of the computer printout format, symbols, and abbreviations.

e. Use adequate and consistent notation.

f. Provide sufficient information to permit manual checks of the results.

2.4 Specifications

Specifications shall be prepared in accordance with the Construction Specifications Institute (CSI) format. The Design-Build Contractor prepared specifications shall include as a minimum, all applicable specifications sections referenced by the CSI. Where the CSI does not reference a specification section for specific work to be performed by this contract, the Design-Build Contractor shall be responsible for creating the required specification.

2.4.1 Preparation of Proprietary Non-Generic Design Documents

The Contractor must call out and identify specific products and proprietary materials, equipment, systems, and patented processes in design documents. As much a practicable, the Designer shall provide trade names, makes, and catalog numbers for all products and materials. It is not acceptable to use subsequent construction submittals instead

of providing a complete, specific design. Design submittals specifying generic products or materials, where proprietary items are available, will be returned for resubmission.

2.4.2 Use of Unified Facilities Guide Specifications (UFGS)

If UFGS are used, it is the sole responsibility of the Design-Build Contractor to prepare these specifications in strict conformance with the paragraph entitled PREPARATION OF PROPRIETARY NON-GENERIC DESIGN DOCUMENTS. UFGS containing non-proprietary and/or generic design criteria where proprietary items are available, will be returned for resubmission. If the UFGS contains a “SUBMITTALS” paragraph, the Design-Build Contractor shall delete it and incorporate all required information directly into the design documents. Under no circumstances will the Design-Build Contractor be permitted to use submittals and shop drawings to finalize an incomplete design.

2.4.3 Quality Control and Testing

Specifications shall include required quality control and further indicate all testing to be conducted by the Design-Build Contractor, its subcontractors, vendors and/or suppliers.

2.4.4 Ambiguities and indefinite specifications

Ambiguities, indefinite specification requirements (e.g., highest quality, workmanlike manner, as necessary, where appropriate, as directed etc.) and language open to interpretation is unacceptable.

2.4.5 Industry Standards

The Specifications shall be based on industry accepted international standards such as: National Fire Protection Association (NFPA), Uniform Building Code (UBC), American Concrete Institute (ACI), American Water Works Association (AWWA), Americans With Disabilities Act (ADA), etc. Standards referenced shall be by specific issue; the revision letter, date or other specific identification shall be included.

2.4.6 Incorporation of Government review comments

Subsequent to submission to the Government, the specifications shall be finalized by the incorporation of Government review comments.

2.5 Drawings

Drawings, prepared in English with metric units of measure, are a part of each submittal. The working drawings shall be adequately labeled and cross-referenced for review. Complete, thoroughly checked and coordinated design drawings shall be submitted. The design drawings submitted for final review shall include the drawings previously submitted which have been revised and completed as necessary. The Design-Build Contractor shall have incorporated any design review comments generated by previous design review(s), have completed all of

his constructability and coordination checks, and have the drawings in a Ready-to-Build condition. The design drawings shall be complete at this time and contain all the details necessary to ensure a clear understanding of the work throughout construction.

2.5.1 Drawing Size

All drawings shall be prepared for metric size "A1" sheets (594mm by 841mm) or if approved by the contracting Officer of an internationally recognized size approximately 24 inches (60 cm) by 36 inches (90 cm). Drawings shall be trimmed to size if necessary.

2.5.2 AUTOCAD

AUTOCAD is required for all work related to this contract. The Contractor shall furnish the digital as-built drawing files in AUTOCAD. Any other convention other than CADD, must have approval of the Contracting Officer prior to it being used.

2.5.3 Plotter Prepared Original Drawings

Plotter prepared original drawings shall be prepared on 20 pound bond paper, unless otherwise approved and shall be plotted on the matte side.

Raster plotters must provide a minimum resolution of 400 dpi while vector plotters shall provide a minimum resolution of 0.0010 inch with an accuracy of +0.1% of the move and a repeatability error of not more than 0.005 inch. Drawings produced from dot matrix plotters are not acceptable. Plots accompanied by the digital design file may be prepared on vellum: translucent bond is not acceptable. Line density shall be equivalent to that produced by black India ink: half-tones and gray scale plots are not acceptable unless otherwise approved. Manual changes to plotted originals are not acceptable.

1. 2.5.4 Half-Size Reduction
2. 2.5.5 Symbols and Abbreviations
3. 2.5.6 Reproducible Mylar Drawings

Preparation of all work shall accommodate half size reduction unless instructed otherwise by the Contracting Officer.

Symbols and abbreviations shall be internationally recognized. Design drawings shall include one (1) set of reproducible Mylar drawings which shall become a part of the basis for the preparation of As-Built drawings in accordance with Special Clause entitled PREPARATION OF AS-BUILT DRAWINGS.

2.5.7 Design Discipline Designation Format

The drawing package shall be divided into the following proposed divisions:

Discipline Designation Discipline C Civil XE Exterior Electrical and Communication XM Exterior Mechanical S Structural P Plumbing, Process and Piping M Mechanical Design FP Fire Protection and Life Safety E

Electrical

Each drawing for the particular facility shall be designated by the discipline designation and sheet number (e.g., E-6 is the sixth Electrical drawing, E-7 is the seventh Electrical drawing etc.). Standard detail drawings sheet reference numbers shall have the letters "S" preceding the discipline. (Example: SE-6).

2.5.8 Grouping Drawings

A building or individual facility design shall, except for site development drawings, be grouped in the design drawing package so that a single building may be withdrawn by deleting or removing a consecutive block of sheets.

2.5.9 Title and Revision Block

Title and revision block shall match FIGURE 1 through 5 furnished in the paragraph entitled ATTACHMENTS.

2.5.10 Drawing Scales

The scales indicated on the following list shall, in general, be used for all drawings. The Contractor may, at its option, make exceptions to scales indicated, if approved in writing by the Contracting Officer.

Site, Grading and Utility Plans - 1:500 Key Plans as large as practical Cross Sections - 1:10 Details - As required for clarity 2.5.11 Binding

All volumes of drawing prints shall be firmly bound and shall have covers of heavier bond than the drawing sheets. If posts are used to fasten sheets together, the drilled holes on the bond edges of the sheets shall be on 8-1/2-inch centers.

2.5.12 Typical Sheets

Typical sheets of standard details uniformly used on all buildings are authorized and encouraged. Sheets of standard details may be prepared so that they can be reused if the design package must be divided into separate construction packages. Each typical detail-drawing sheet may be limited to a particular design discipline. Standard detail sheets shall be organized by discipline, as are the other drawing sheets. Details peculiar to one facility shall not be shown in the standard details but with the group of drawings for the facility to which it pertains.

2.5.13 Index Sheet(s)

The first sheet of each volume in a project shall be a cover sheet. In general, the second sheet shall be the first index. Multiple index sheets may be required, depending on the project size. All index sheets shall be included with each volume of drawings and shall be an index of all the individual drawings in all volumes. The index shall list, sequentially, the site development drawings, each facility's drawings, and the standard details drawings (if any), and shall locate them by volume and file number. Each index sheet shall be signed and stamped by

a principal of the Design-Build Contractor.

2.5.14 Drawing File Number

The File Number is unique to each drawing and is a combination of a project location code, project number, facility designator and the CADD file name. Unassigned numbers or skipped sheets shall be labeled as "Not Used" on the index sheets. Cover sheets are not numbered.

2.5.15 Specifications Placed on the Drawings

Details of standard products or items which are adequately covered by specifications shall not be included on the drawings.

2.5.16 Legends

For each submittal, legends of symbols and lists of abbreviations shall be placed on the drawings. They shall include all of the symbols and abbreviations used in the drawing set, but shall exclude any symbols and abbreviations not used. Since many symbols are limited to certain design disciplines, there is a definite advantage to the use of separate legends on the initial sheet of each design discipline or in the Standard Details package for each discipline. If legends have not been shown by discipline, a legend shall be placed on the first drawing.

2.5.17 Location Grid

To facilitate the location of project elements and the coordination of the various disciplines' drawings, all plans shall indicate a column line or planning grid.

2.5.18 Composite and Key Plans

If the plan of a large building or structure must be placed on two or more sheets in order to maintain proper scale, the total plan shall be placed on one sheet at a smaller scale. Appropriate key plans and match lines shall appear on segmented drawings. Key plans shall be used not only to relate large scale plans to total floor plans but also to relate individual buildings to complexes of buildings. Key plans shall be drawn in a convenient location and shall indicate the relative location of the represented plan area by crosshatching.

2.5.19 Revisions

Drawing revisions shall be prepared only on the original CADD files. A revision area is required on all sheets.

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Design Concept Coordination Meeting

In addition to regular meetings with the Government the Contractor shall conduct formal status briefings on a monthly basis to provide a management overview of design development. Shortly after contract award the Government may choose to conduct meetings with the Design-Build Contractor to refine proposal concept features. The purpose of the meeting is to assure attention to project requirements and to suggest ways of improving the design prior to tentative level submissions.

3.1.2 Government Design Changes

Government design changes which do not increase construction costs shall be made at no additional design charge to the Government. (This provision will not apply where the Government has unreasonably packaged several and significant design changes with issues that both decrease and increase construction costs, with the effect of artificially resulting in no-cost construction. Moreover, this prohibition from additional design charges shall not apply where significant additional design costs are incurred by the contractor, through no fault of the contractor’s, and where these changes have occurred to issues that were already well settled as the result of final approval action by the Government.) The Contracting Officer may request design submittals in addition to those listed when deemed necessary to adequately describe the work covered in the contract documents. Submittals shall be made in the respective number of copies and to the respective addresses set forth in the paragraph entitled SUBMITTAL PROCEDURE. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

3.2 SUBMITTAL REGISTERS

3.2.1 Contractor-Furnished Design Documents Submittal Register (TAC Form 122E)

3.2.1.1 General

The Contractor shall submit as part of his Project Schedule, information regarding the submittal and clearance for construction of Contractor furnished design documents. In addition, the Contractor shall provide a complete submittal register in the sample format (TAC Form 122-E - Contractor Furnished Design Documents Submittal Register) which is attached to this section. The Contractor shall, within fifteen (15) calendar days after approval of the Project Schedule, submit six (6) copies of his finalized Contractor Furnished Design Document Submittal Register to the Contracting Officer for approval. The submittal register shall consist of a tabulation of all the Contractor furnished design documents with the indicated dates integrated into the Design Progress Schedule. The Contractor shall post all actual dates of submittal actions (including clearance for construction) as they occur. Revisions shall be made at minimum on a monthly basis to keep the submittal register in agreement with the scheduled dates shown in the network mathematical analysis. Six (6) copies of the revised submittal

register shall be furnished to the Contracting Officer at the time revisions are made in the network mathematical analysis.

3.2.1.2 Additions or Revisions

Any additions or changes required to be made to the TAC Form 122-E as a result of the Contracting Officer's review shall be incorporated into the TAC Form 122-E by the Contractor and a re-submittal of six (6) copies shall be effected within five (5) calendar days after receipt of the Contracting Officer's review comments.

3.2.1.3 Submission Requirements

Copies of the initial TAC Form 122-E and each monthly update prepared by the Contractor, shall be submitted to the Contracting Officer with copies to the Resident Engineer. The address for the Contracting Officer is:

US Army Corps of Engineers
Afghanistan Engineering District
TAC House
Chara-E-Shipar (Next to UNAMA Compound)
Kabul, Afghanistan

Attn: AT Bridge – KO Submittals

The initial Form 122-E and each monthly update shall also be uploaded to the FTP site established by the Contractor for Design Submittals and selected other Submittals as specified or as requested by the Contracting Officer.

3.2.2 Construction Submittal Register (ENG Form 4288)

Attached to this section is ENG Form 4288 which the Contractor is responsible for developing for this contract. All construction submittals shall be shown on this register. The submittal register shall be the controlling document and will be used to control all construction submittals throughout the life of the contract. The Contractor shall maintain and update the register on a monthly basis for the Contracting Officer's approval.

The initial ENG Form 4288 and each monthly update shall also be uploaded to the FTP site established by the Contractor for Design Submittals and selected other Submittals as specified or as requested by the Contracting Officer.

3.3 TRANSMITTAL FORM (ENG Form 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both design and construction submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care will be exercised to ensure proper listing of the specification paragraph and/or sheet number of the

contract drawings pertinent to the data submitted for each item.

3.4 PROGRESS SCHEDULE

The Contractor shall prepare and submit a design progress schedule to the Contracting Officer in accordance with the provisions of Section 01321 DESIGN-BUILD NETWORK ANALYSIS SCHEDULES (NAS). The Contractor shall correct the progress schedule at the end of each month and shall deliver six (6) copies to the Contracting Officer. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

The original and each monthly update of the design schedule shall also be uploaded to the FTP site established by the Contractor for Design Submittals and selected other Submittals as specified or as requested by the Contracting Officer.

3.5 Not used.

3.6 SUBMITTAL PROCEDURE

3.6.1 Design Submittals

3.6.1.1 Afghanistan Engineer District (AED)

Copies of all design submittals shall be transmitted via DHL, FEDEX, UPS, or any other reputable courier service, to the Government at the following address by means of ENG Form 4025:

US Army Corps of Engineers
Afghanistan Engineering District
TAC House
Chara-E-Shipar (Next to UNAMA Compound)
Kabul, Afghanistan

Attn: AT Bridge – KO Submittals

Copies shall all design submittals shall also be furnished to the Resident Engineer Office at the Project Site.

At the same time, the Contractor shall upload all design submittals to a Project-dedicated FTP site established by the Contractor. All submittals uploaded to the site shall be indexed, easily found and accessible, and remain on the posted on the site until after the Contractor receives Final Payment for work under this Contract.

3.6.1.2 Not Used

3.6.1.3 Deliverables "Cleared for Construction"

Once the Design Document has been "cleared for construction" by the Contracting Officer, the copies of all finalized design documents clearly identified as such by being stamped “Cleared for Construction” shall be assembled as a single package and submitted to the Government via DHL, FEDEX, UPS, or any other reputable courier service, as follows:

US Army Corps of Engineers
Afghanistan Engineering District
TAC House
Chara-E-Shipar (Next to UNAMA Compound)
Kabul, Afghanistan

Attn: AT Bridge – KO Submittals

Copies shall all finalized design documents shall also be furnished to the Resident Engineer Office at the Project Site.

Design submittal that have been uploaded to the FTP site and subsequently “cleared for construction” shall be moved to a “Cleared for Construction” folder or area of the FTP site.

3.6.1.4 Digital Transmission of Design Submittals

The Design-Build Contractor shall, in addition to providing hard copies, submit design deliverables addressed by this specification in digital format. The actual review time for the submittals will not begin until the Government receives the hard copies of the design deliverables.

The following procedure shall be followed:

a. USE OF FILE TRANSFER PROTOCOL (FTP) SERVER. The Design-Build Contractor will upload all design files on a File Transfer Protocol (FTP) Server established by the Contractor for this project. The procedure to be followed will be established at the Pre-Construction Conference and the appropriate log-in and password information will be exchanged between the Government and the Design-Build Contractor.

b. TRANSLATED OR CONVERTED FILES DRAWING FILES. Digital drawing files shall be prepared as indicated in the paragraph entitled AUTOCAD. Under NO circumstances shall the Design-Build Contractor translate (or convert) the files from one AUTOCAD software program to another (e.g., from Autocad to Bently MicroStation).

c. NOTIFICATION. The Design-Build Contractor shall notify all recipients by email that the Design submittal has been downloaded to the designated FTP server. This email shall include a scanned copy of the ENG Form 4025 signed by the Design-Build Contractor’s Contractor Quality Control (CQC) Organization. It shall also include an updated digital copy of TAC Form 122-E. The Government will use the digital submittal as an advance copy pending receipt of an official hardcopy version. Subsequent to a period of demonstrated successful performance, the Government may elect to eliminate the requirement to submit an

official hardcopy version. The TAC Form 122-E shall be prepared in a spread sheet software that readily allows the file to be saved as a *.CSV file that can subsequently be imported into the Corps of Engineers Resident Management System (RMS) software.

d. RETURN OF GOVERNMENT REVIEWED SUBMITTALS. Subsequent to the Government review, the Eng Form 4025 with comments (if applicable) will be returned to the Design-build Contractor digitally by email. Hardcopies of these documents will subsequently be submitted to the Design-Build Contractor. The Government may elect to stop sending hardcopies if it deems that digital transmission of design submittals is progressing satisfactorily.

e. SUPPLEMENTAL ACTIONS. All supplemental actions, re-submittals, and subsequently scheduled submissions shall be performed by the Design-Build Contractor as indicated within this paragraph.

3.6.2 Post Design Construction Submittals

Five (5) copies (four paper and one electronic copy) of all post design construction submittals shall be transmitted to the following address:

US Army Corps of Engineers
Afghanistan Engineering District
TAC House
Chara-E-Shipar (Next to UNAMA Compound)
Kabul, Afghanistan

Attn: AT Bridge – KO Submittals

Three (3) copies (two paper and one electronic copy) of all post design construction submittals shall be transmitted to the Resident Engineer Office at the Project Site.

The Contractor shall also upload to the FTP site, any post design construction submittals, as requested by the Contracting Officer or by the Project Manager.

Submittals of Operations and Maintenance (O & M) Manuals in accordance with Section 01060 SPECIAL CLAUSES shall be submitted in eight (8) copies (six paper and two electronic copies)to the overseas field office administering the construction portion of the contract via DHL, FEDEX, UPS, or any other courier service, at the following address:

US Army Corps of Engineers
Afghanistan Engineering District
TAC House
Chara-E-Shipar (Next to UNAMA Compound)
Kabul, Afghanistan

Attn: AT Bridge – O&M Manuals

3.6.3 Submittal Numbering System

Instruction on the numbering system to be used for construction submittals is as follows:

3.6.3.1 Submittals

Shop drawings and materials are listed on the Submittal Register (ENG Form 4288) as follows:

a. List is prepared according to contract specifications and drawings, picking up all items involved in the project.
b. This list is divided into sections as indicated in the specifications for example:

Sec 01015 "Technical Requirements"
Sec. 02831 "Chain-Link Fence"
Sec. 02710 "Sub-drainage System"
Sec. 03300 "Concrete For Building Construction"
Sec. 04200 "Masonry"

3.6.3.2 Numbering procedures for transmittal on ENG FORM 4025

a. Each section, may include a list of items. All these items will then be listed with a progressive number within the sections they belong to, for example:

Sec. 01015 will have 01015.00 (Basic number) Item x " " 01015.01 Item y " " 01015.02 Item z " " 01015.03

Sec. 02710 will have 02710.00 (Basic number) Item x " " 02710.01 Item y " " 02710.02 Item z " " 02710.03
Sec. 02600 will have 02600.00 (Basic number)
Item x " " 02600.01
Item y " " 02600.02

Sec. 03300 will have 03300.00 (Basic number)
Item x " " 03300.01
Item y " " 03300.02
etc.

b. It is evident a transmittal will never show a Section number i.e., 02831.00, 03300.00, etc., since these are only the basic numbers of the system. Numbers on transmittals will be the item numbers, i.e., 01015.01, 02710.01, 02710.02, 02710.03, 03300.01, 03300.02, etc. All items, as listed on the Submittal Register, will be submitted via a separate transmittal form ENG FORM 4025 thus avoiding getting together more than one item (as listed) and more than one number. There are items, on the other hand, which may be submitted all together on the same transmittal form. This must be established before submission is made.

c. Sec. 10800 "Toilet Accessories" - this section will have basic number 10800.00 - all items relative to it will be listed one by one on

separate lines. ONLY one transmittal number will then be given for all of these "10800.01" which will include i.e., robe hook, toilet paper holder, mirror, soap holder, cabinet for paper towels, etc. Each one of these items will be listed on the same Transmittal Number 10800.01 as item 1, item 2, item 3, etc.

3.6.3.3 Re-submittals

Should the Contractor be required to resubmit any transmittal, it will be accomplished by utilizing the same transmittal number followed by the number "-1" for the first re=submittal, "-2" for the second re=submittal, "-3" for the third re-submittal, etc. For example, a first re=submittal would be "SUBMITTAL PROCEDURES FOR DESIGN BUILD PROJECT" 01335.01-1, a second re-submittal 01335.01-2, etc. The purpose of this system is to avoid deviations from Submittal Register. Also, it is to avoid confusion arising from the use of more than one number on transmittal when more than one item is submitted on the same form. This system will also facilitate the use, wherever required, on machine printouts.

3.6.4 Variations

If design documents or construction submittals show variations from the contract parameters and/or requirements, the Contractor shall justify such variations in writing, at the time of submission. Additionally, the Contractor shall also annotate block "h" entitled "variation" of ENG FORM 4025. After design submittals have been reviewed and cleared for construction by the Contracting Officer, no re-submittal for the purpose of substituting materials, equipment, systems, and patented processes will be considered unless accompanied by the following:

a. Reason or purpose for proposed variation, substitution, or revision.

b. How does quality of variation compare with quality of the specified item. This shall be in the form of a technical evaluation tabulating differences between the item originally specified and what is proposed.

c. Provide a cost comparison. This shall include an acquisition and life cycle cost comparison.

d. For proprietary materials, products, systems, and patented processes a certification signed by an official authorized to certify in behalf of the manufacturing company that the proposed substitution meets or exceeds what was originally specified.

e. For all other actions, a certification signed by a licensed professional engineer or architect certifying that the proposed variation or revision meets or exceeds what was originally specified.

f. Advantage to the Government, if variation is approved, i.e. Operation and Maintenance considerations, better product, etc.

g. Ramifications and impact, if not approved. If the Government review detects any items not in compliance with contract requirements or items requiring further clarification, the Contractor will be so advised. Lack of notification by the Contracting Officer of any non-complying

item does not relieve the Contractor of any contractual obligation.

3.6.5 Non-Compliance

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.7 REVIEW OF CONTRACTOR PREPARED DESIGN DOCUMENTS

3.7.1 General

The work under contract will be subject to continuous review by representatives of the Contracting Officer. Additionally, joint design review conferences with representation by all organizations having a direct interest in the items under review may be held. The Design-Build Contractor shall furnish copies of all drawings and related documents to be reviewed at the review conference on or before the dates indicated by the Government. Additional conferences pertaining to specific problems may be requested by the Design-Build Contractor or may be directed by the Contracting Officer as necessary to progress the work. The Design-Build Contractor shall prepare minutes of all conferences and shall furnish two copies to the Contracting Officer within seven (7) days after the conference.

3.7.2 Independent Design Review

The Design-Build Contractor shall have someone other than the Designer or Design Team perform an independent review of all specifications, drawings, design analysis, calculations, and other required data prior to submission to the Government. Upon completion of this review, the Design-Build Contractor shall certify that each design submittal is complete, accurate, is in strict conformance with all contract requirements, that repetition has been avoided, that all conflicts have been resolved, and that the documents have thoroughly coordinated and cross checked against all the applicable disciplines to prevent the omission of vital information.

3.7.3 Contractor's Quality Control Organization Review

This review shall be for the purposes of eliminating errors, interferences, and inconsistencies, and of incorporating design criteria, review comments, specifications, and any additional information required. Design submittals submitted to the Contracting officer without evidence of the Contractor's certified approval will be returned for resubmission. No part of the time lost due to such resubmissions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.7.4 Government Review

The Contractor shall not begin construction work until the Government has reviewed the Contractor's design and has cleared it for construction. Clearance for construction does not mean Government approval. Government review shall not be construed as a complete check but will evaluate the general design approach and adherence to contract parameters. The Government Review is often limited in time and scope. Therefore, the Contractor shall not consider any review performed by the Government as an excuse for incomplete work. Upon completion of the review, all comments will be forwarded to the Contractor. The Contracting Officer will indicate whether the design submittal has or has not been cleared for construction. Design submittals cleared for construction by the Contracting Officer shall not relieve the Contractor from responsibility for any design errors or omissions and any liability associated with such errors, nor from responsibility for complying with the requirements of this contract.

3.7.4.1 Incorporation of Government Review Comments

The Contractor will be furnished the Government’s design comments. The review will be for conformance with the technical requirements and parameters of the contract documents. The Contractor shall either incorporate each comment or, if the Contractor disagrees technically and does not intend to comply with the comment(s), the Contractor shall clearly outline, with ample justification, its reasons for its noncompliance within five (5) days after receipt of the comment(s). Additionally, the Contractor is cautioned in that if it believes the action required by any comment exceeds the requirements of this contract, that he should take no action and notify the Contracting Officer in writing immediately. The disposition of all comments shall be furnished in writing with the next scheduled submittal. The review comments and the submittal material for each design review will become the basis for any ensuing design work. Copies of the design review comments with the action taken on each comment noted, shall be bound in all succeeding volumes of the design analysis.

3.7.4.2 Conferences

As necessary, conferences will be conducted between the Design-Build Contractor and the Government to resolve review comments.

3.7.4.3 Design Deficiencies

Design deficiencies noted by the Government shall be corrected prior to the start of design for subsequent features of work which may be affected by, or need to be built upon, the deficient design work.

3.7.5 Design Discrepancies

The Design-Build Contractor shall be responsible for the correction of incomplete design data, omissions, and design discrepancies which become apparent during construction. The Design-Build Contractor shall provide the Contracting Officer with a proposed recommendation for correcting a design error, within three (3) calendar days after

notification by the Contracting Officer. The Contracting Officer will notify the Design-Build Contractor of any detected noncompliance with the foregoing requirements. The Design-Build Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Design-Build Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Design-Build Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Design-Build Contractor. Should extensions of design, fabrication plans and/or specific manufacturer's details be required as a result of a Government issued Change Order, the Government will make an equitable adjustment in accordance with Contract Clause 52.243-4 entitled CHANGES.

3.8 Phased or "Fast-Track" Design

3.8.1 General

If approved by the Government, design and construction sequencing may be effected on an incremental basis as each approved phase or portion (e.g., demolition, geotechnical, site work, exterior utilities, foundations, substructure, superstructure, exterior closure, roofing, interior construction, mechanical, electrical, etc.) of the design is completed.

3.8.1.1 Design Phases

The design phases shall be in accordance with the Contractor Furnished Design Documents Submittal Register (TAC Form 122-E) as approved by the Contacting Officer.

3.8.1.2 Approval of TAC Form 122-E

In all cases, TAC Form 122-E indicating the proposed phasing shall be submitted for review and approval by the contracting Officer prior to initiation of any procurement action or commencement of any construction.

3.8.2 Sequence of Design-Construction (Fast-Track)

After receipt of the Contract Notice to Proceed (NTP) the Contractor shall initiate design, comply with all design submission requirements and obtain Government review of each submission. The Contractor may begin construction on portions of the work for which the Government has reviewed the final design submission and has determined satisfactory for purposes of beginning construction. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design re-submittal required when, in the opinion of the Government, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

3.8.3 Notice-to-Proceed for Limited Construction

If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

3.8.4 In-Place Construction Payment

No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Government.

3.8.5 Commencement of Construction

Construction of work may begin after receipt of the clearance for construction (Notice to Proceed) for each design phase. Any work performed by the Contractor prior to receipt of the clearance for construction, shall be at the Contractor's own risk and expense. Work cleared for construction that does not conform to the design parameters and/or requirements of this contract shall be corrected by the Contractor at no additional cost or time to the Government.

3.9 Design Stages

The Contractor shall schedule the number and composition of the design submittal phases. Design submittals are required at the Concept (35%) and Final (99%) design stages and at the 100% design completion. The requirements of each design stage are listed hereinafter. The number and contents of the design submittals phases shall be reflected in TAC Form 122-E as well as in the Contractor's design progress schedule. See figure 6 in attachments for a matrix of items and number of copies.

3.9.1 Concept Review Submittal (35%)

The Concept Review Submittal (35%) shall be submitted to the Government within twenty (20) calendar days after NTP. The review of this submittal is primarily to ensure that the Contractor has taken an inventory of the existing conditions at each proposed site, has established the most desirable functional relationships between the various project elements, has provided the technical solution to how the functional and technical requirements will be met, and to show Contractor compliance (or justify noncompliance) with the design parameters and/or requirements.

The following documents shall be submitted:

Site Layout (to include main utilities lines)

Elevations

Key Sections

Design Analysis

Draft Specifications

3.9.2 Final Design Review Submittal (99%)

The Final Design Review Submittal (99%) shall be submitted to the Government within sixty (60) calendar days after NTP. The review of this submittal is to insure that the design is in accordance with directions provided the Contractor during the design process. The only effort remaining between the FINAL DESIGN REVIEW SUBMITTAL and the READY-TO-ADVERTISE DESIGN REVIEW SUBMITTAL is the incorporation of the Government Review Comments. The Contractor shall submit the following documents for Final review:

a. Design Analysis, developed to a 99% design stage. The Design Analysis shall be in its final form. It shall include all backup material previously submitted and revised as necessary. All design calculations shall be included. The Design Analysis shall contain all explanatory material giving the design rationale for any design decisions which would not be obvious to an engineer reviewing the Final Drawings and Specifications.

b. 99% Complete Construction Specifications. The Draft Specifications on all items of work submitted for Final Review shall consist of marked-up proprietary specifications.

c. 99% Complete Construction Drawings. The Contract Drawings submitted for Final Review shall include the drawings previously submitted which have been revised and completed as necessary. The Contractor is expected to have completed all of his coordination checks and have the drawings in a design complete condition. The drawings shall be finalized at this time including the incorporation of any design review comments generated by the Preliminary design review. The drawings shall contain all the details necessary to assure a clear understanding of the work throughout construction.

d. The Government's 35% Design Review Comments with the Contractor's annotation to each comment.

3.9.3 Design Completion Review Submittal(100%)

After the FINAL DESIGN REVIEW SUBMITTAL review, the Contractor shall revise the Contract Documents by incorporating any comments generated during the FINAL DESIGN REVIEW SUBMITTAL and shall prepare final hard copy Construction Specifications. The Contractor shall submit the Design Completion Review Submittal (100%) to the Government within eighty (80) calendar days after NTP. The Contractor shall submit the following documents for the design complete submittal:

a. Design Analysis

b. Construction Specifications

c. Construction Drawings

d. The Government's FINAL (99%) DESIGN REVIEW SUBMITTAL comments with the Contractor's annotation to each comment.

3.9.4 Partial Design Submittals

In the interest of expediting construction, the Contracting Officer may approve partial design submittals, procurement of materials and equipment, as well as issue the Notice To Proceed (NTP)for construction of those elements of the design which have been cleared for construction. Such partial notices to proceed shall be solely at the discretion of the Contracting Officer.

3.9.5 Design Submittals not in compliance with the contract documents

The Contractor shall, without additional compensation, correct or revise any errors or deficiencies in its design analysis, specifications, and drawings, and promptly furnish a corrected submittal in the form and number of copies as specified for the initial submittal. No part of the time lost due to such resubmissions shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice shall be given promptly to the Contracting Officer.

3.10 GENERAL DESIGN INSTRUCTIONS

3.10.1 Responsibility of the Design-Build Contractor

3.10.1.1 Professional Quality, Technical Accuracy, and Coordination

The Design-Build Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, specifications, drawings, and other non-construction services furnished by the Contractor under this contract. Work must be organized in a manner that will assure thorough coordination between various details on drawings, between the various sections of the specifications, and between the drawings and specifications. The Design-Build Contractor shall thoroughly cross-check and coordinate all work until he is professionally satisfied that no conflicts exist, vital information has not been omitted, and that indefinite language open to interpretation has been resolved.

The standard of care for all design services performed under this agreement shall be the care and skill ordinarily used by members of the architectural or engineering professions practicing under similar conditions at the same time and locality. Notwithstanding the above, in the event that the contract specifies that portions of the work be performed in accordance with a performance standard, the design services shall be performed so as to achieve such standards.

3.10.1.2 Correction of Work

The Contractor shall, without additional compensation, correct or revise any errors or deficiency in its designs, drawings, specifications, and other non-construction services and perform any necessary rework or modifications, including any damage to real or

personal property, resulting from the design error or omission.

3.10.1.3 Government Oversight

The extent and character of the work to be done by the Design-Build Contractor shall be subject to the general oversight, supervision, direction, control, and review by the Contracting Officer.

Neither the Government’s review, approval or acceptance of, nor payment for, the services required under this contact shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract. The Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor’s negligent performance of any of these services furnished under this contract.

3.10.1.4 Unlimited Drawing Rights

The Government shall have unlimited rights in all drawings, designs, specifications, notes and all other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Design-Build Contractor. The Design-Build Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws.

3.10.1.5 Conflicts

Any conflicts, ambiguities, questions or problems encountered by the Design-Build Contractor in following the criteria shall be immediately submitted in writing to the Contracting Officer with the Design-Build Contractor's recommendations. Prior to submission to the Government the Design-Build Contractor shall take appropriate measures to obtain clarification of design criteria requirements, to acquire all pertinent design information, and to incorporate such information in the work being performed.

3.10.1.6 Design Specialists

Whenever a design specialist is required, the Design-Build Contractor shall submit for the approval by Contracting Officer, the name of the designated specialist along with the individual's educational background, experience, and licenses or registrations held, before design work commences. The design specialists shall be registered architects, registered professional engineers, or recognized consultants with a background of at least five (5) years design experience in the appropriate specialty. Services of design specialists may be required for the following specialties:

Geotechnical Design

Seismic Design

3.10.1.7 Rights and Remedies

The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law. If the Contractor is comprised of more than one legal entity, each entity shall be jointly and severally liable hereunder.

3.10.2 Conduct of Work

In the performance of contract the Design-Build Contractor shall:

3.10.2.1 Performance

Perform the work diligently and aggressively, and promptly advise the Contracting Officer of all significant developments.

3.10.2.2 Telephone Conversations

Prepare a summary, and promptly furnish a copy thereof to the Contracting Officer, of all telephone conversations relating to the design work under this contract.

3.10.2.3 Cooperation with Others

Cooperate fully with other firms, consultants and Contractors performing work under the program to which this contract pertains, upon being advised by the Contracting Officer that such firms or individuals have a legitimate interest in the program, have need-to-know status, and proper security clearance where required.

3.10.2.4 Technical Criteria

All designs, drawings, and specifications shall be prepared in accordance with the contract documents and with the applicable publications referenced therein. As soon as possible, the Design-Build Contractor shall obtain copies of all publications applicable to this contract. Availability of publications (where to purchase) is contained in Specification Section 01420 entitled: SOURCES FOR REFERENCE PUBLICATIONS. Any deviations from the technical criteria contained in the contract documents or in the applicable publications, including the use of criteria obtained from the user or other sources, must receive prior approval of the Contracting Officer. Where the technical criteria contained or referred to herein is not met, the Design-Build Contractor will be required to conform his design to the same at his own time and expense.

3.10.3 Design Priorities

The design of this project shall consider the remote location and harsh environment of this project and the impact this will have on sources of technical supply, the cost of construction, the low level of maintenance, and the difficulty of obtaining replacement parts. Unless stated otherwise in this contract, the following design priorities shall be followed:

3.10.3.1 Life-Span

Construction must have an expected life span of 50 years.

3.10.3.2 Maintainability

Low maintenance materials and systems must be employed.

3.10.3.3 Operability

Systems including but not necessarily limited to mechanical, electrical, communications, etc., must be simple to operate and easy to maintain.

3.10.3.4 Standardization

Use of standardized materials, products, equipment, and systems is necessary to minimize the requirements for replacement parts, storage facilities, and service requirements.

3.10.3.5 Overseas Work

Use construction materials or techniques which are suitable for overseas work in harsh climates and environments.

3.10.4 Topographic Surveys, Easements, and Utilities

Unless otherwise stated in the contract, the Design-Build Contractor will be responsible for detailed topographic mapping, available easements, and utility information for the project.

3.10.5 Geotechnical Investigation

Unless otherwise stated in the contract, the Design-Build Contractor will be responsible for Geotechnical investigation, including subsurface explorations, sampling, field and laboratory testing, and water studies, where applicable.

3.10.6 Cathodic Protection and Earth Resistance

Unless otherwise stated in the contract, the A-E will be responsible for determining whether cathodic protection on buried structures and underground utility systems are needed for special electrical grounding and counterpoise systems, and for gathering the field data necessary for design.

3.10.7 Water Supply and Quality Data

Unless otherwise stated in the contract, the Design-Build Contractor will be responsible for obtaining all water supply and water quality data. This data will include information on the locations and depths of all viable water supply sources at the site(s) involved and a water quantity and water quality analysis for each source.

3.10.8 Occupational Safety and Health Act

The facilities, systems, and equipment designed under this contract shall comply with the Occupational Safety and Health Act (OSHA), Code of Federal Regulations, Title 29, Chapter XVII, Parts 1910 and 1926.

Any problems incorporating these standards due to conflicts with other technical criteria shall be submitted to the Contracting Officer for resolution.

3.10.9 Asbestos Containing Materials

Asbestos containing material (ACM) will not be used in the design of new structures or systems. In the event no other material is available which will perform the required function or where the use of other material would be cost prohibitive, a waiver for the use of asbestos containing materials must be obtained from CETAC.

3.10.9.1 Existing Construction

Asbestos containing materials (ACM) presently included in existing construction to be rehabilitated or otherwise modified as a result of this project, shall be removed and a non-asbestos containing material substituted in lieu thereof.

3.10.9.2 Suspected Asbestos Containing Materials

All such structures and systems shall be inspected to determine the presence or probable presence of ACM. When ACM is suspected, a documented survey will be performed. The survey will be developed into an abatement design and will be made a part of the design documents. In the event no other material is available which will perform the required function or the use of a substitute material would be cost prohibitive due to initial cost and tear-out of existing construction, a waiver for the retention of the asbestos containing material must be obtained from the Contracting Officer.

3.11 Value Methodology/Value Engineering

The Design-Build Contractor during the course of his design shall be alert for and shall identify those high-cost low-value items or areas which he considers may be accomplished in different ways that will increase the value of the project at the same or less cost. Potential value engineering study items shall be reported to the Value Engineer through the Contracting Officer.

3.11.1 Performance Oriented Value Engineering Change Proposal (VECP) In reference to Contract Clause 52.248-3, "Value Engineering - Construction", the Government may refuse to entertain a "Value Engineering Change Proposal" (VECP) for those "performance oriented" aspects of the Contract Documents which were addressed in the Design-Build Contractor's accepted contract proposal and which were evaluated in competition with other Proposers for award of this contract. For purposes of this clause, the term "performance oriented" refers to those aspects of the design criteria or other contract requirements which allow the Proposer or the Design-Build Contractor certain latitude, choice of and flexibility to propose in its accepted contract offer a choice of design, technical approach, design solution, construction approach or other approach to fulfill the contract requirements. Such requirements generally tend to be expressed in terms

of functions to be performed, performance required or essential physical characteristics, without dictating a specific process or specific design solution for achieving the desired result.

3.11.2 Prescriptive Oriented Value Engineering Change Proposal (VECP)

The Government may consider a VECP for those "prescriptive" aspects of the Solicitation documents, not addressed in the Design-Build Contractor's accepted contract proposal or addressed but evaluated only for minimum conformance with the Solicitation requirements. For purposes of this clause, the term "prescriptive" refers to those aspects of the design criteria or other Solicitation requirements wherein the Government expressed the design solution or other requirements in terms of specific materials, approaches, systems and/or processes to be used. Prescriptive aspects typically allow the Proposers little or no freedom in the choice of design approach, materials, fabrication techniques, methods of installation or other approach to fulfill the contract requirements.

3.12 SUBMITTAL OF CONTRACTOR FURNISHED DESIGN DOCUMENTS AND DRAWINGS.

The requirements for submittal of design documents, including but not necessarily limited to specifications, drawings, design analysis, design calculations, surveys, reports and other documents prepared by the Design-Build Contractor to meet the design requirements of this project, shall be submitted as indicated in the Transatlantic Programs Center *Design Instructions Manual* in the paragraphs entitled: “Submittal Requirements” of the applicable chapters.

3.13 NOT USED.

3.14 GOVERNMENT APPROVED CONSTRUCTION SUBMITTALS (Required During Construction)

3.14.1 General

Since this contract requires that the drawings and specifications specify specific proprietary materials, equipment, systems, and patented processes by trade name, make, or catalog number, it is anticipated that construction shop drawings will primarily be limited to testing, construction plans (e.g., Contractor Quality Control, Accident Prevention, Resident Management System, Area Use etc), schedules (Project Schedule/Network Analysis), certificates of compliance, reports, records/statements and variations.

3.14.1.1 Variations

After design submittals have been reviewed and cleared for construction by the Contracting Officer, no submittal for the purpose of substituting materials, equipment, systems, and patented processes will be considered by the Government unless submitted in accordance with the paragraph entitled VARIATIONS.

3.14.1.2 Additional Shop Drawings and Submittals

In accordance with the paragraph entitled DESIGN DISCREPANCIES, the Government may request the Design-Build Contractor to provide additional shop drawing and submittal type data subsequent to completion of the design.

3.14.2 Incomplete Design

The Design-Build Contractor shall not use construction submittals as a means to supplant and/or supplement an incomplete design effort.

3.14.3 Government Approval of Construction Submittals

The approval of construction submittals by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of design construction, materials, detailing and other information are satisfactory. Approval will not relieve the Design-Build Contractor of the responsibility for any error which may exist, as it is the sole responsibility of the Design-Build Contractor to certify that each submittal has been reviewed in detail and is in strict conformance with all the contract documents and design criteria referenced therein.

3.14.4 Submittals

Submittals (other than shop drawings) shall be limited to items such as Plans (e.g., Quality Control Plan, Accident Prevention Plan, Area Use Plan etc.),Certificates of Compliance, Installation Instructions, Manufacturer's Catalog Data, Descriptive Literature/Illustrations, Factory and Field Test Reports, Performance and Operational Test Data Reports, Records, Operation and Maintenance Manuals, and required variations.

3.14.5 Government Review

Upon completion of review of construction submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Three (3) copies of the submittal will be retained by the Contracting Officer and one (1) copy of the submittal will be returned to the Design-Build Contractor.

3.15 For Information Only Submittals

These submittals shall be checked, stamped, signed and dated by the Design-Build Contractor's Quality Control Engineer, certifying that such submittal complies with the contract requirements. All Contractor submittals shall be subject to review by the Government at any time during the course of the contract. Any Contractor submittal found to contain errors or omissions shall be resubmitted as one requiring "approval". No adjustment for time or money will be allowed for corrections required as a result of noncompliance with plans or specifications. Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. These submittals will be used for

information purposes. The Government reserves the right to require the Design-Build Contractor to resubmit any item found not to comply with the contract. This does not relieve the Design-Build Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the Contracting Officer from requiring removal and replacement if nonconforming material is incorporated in the work.

3.16 ATTACHMENTS

The following attachments form an integral part of this specification:

ENG FORM 4025 - Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificate of Compliance (2 pages)

TAC FORM 122-E - Contractor Furnished Design Documents Submittal Register

ENG FORM 4288 - Submittal Register

Figure 1 - Index Sheet logo/Signature Block (A-E)

Figure 2 - Continuation Sheet Logo/Signature Block (A-E)

Figure 3 - Title Block for Continuation Sheets

Figure 4 - Revision Block

Figure 5 - Finished Format Size

PDF copies of each of these files are attached below:

E4025.pdf

122Erev.pdf

E4288.pdf

Figure1.pdf

Figure2.pdf

Figure3.pdf

Figure4.pdf

Figure5.pdf

SECTION 01415

METRIC MEASUREMENTS

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 621 (1994; R 1999e1) Use of Metric (SI) Units in Building Design and Construction (Committee E-6 Supplement to E380)

ASTM SI 10 (2002) American National Standard for Use of the International System of Units (SI): The Modern Metric System

1.2 GENERAL

This project includes metric units of measurements. The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960. A number of circumstances require that both metric SI units and English inch-pound (I-P) units be included in a section of the specifications. When both metric and I-P measurements are included, the section may contain measurements for products that are manufactured to I-P dimensions and then expressed in mathematically converted metric value (soft metric) or, it may contain measurements for products that are manufactured to an industry recognized rounded metric (hard metric) dimensions but are allowed to be substituted by I-P products to comply with the law. Dual measurements are also included to indicate industry and/or Government standards, test values or other controlling factors, such as the code requirements where I-P values are needed for clarity or to trace back to the referenced standards, test values or codes.

1.3 USE OF MEASUREMENTS

Measurements shall be either in SI or I-P units as indicated, except for soft metric measurements or as otherwise authorized. When only SI or I-P measurements are specified for a product, the product shall be procured in the specified units (SI or I-P) unless otherwise authorized by the Contracting Officer. The Contractor shall be responsible for all associated labor and materials when authorized to substitute one system of units for another and for the final assembly and performance of the specified work and/or products.

1.3.1 Hard Metric

A hard metric measurement is indicated by an SI value with no expressed correlation to an I-P value. Hard metric measurements are often used for field data such as distance from one point to another or distance above the floor. Products are considered to be hard metric when they are manufactured to metric dimensions or have an industry recognized metric designation.

1.3.2 Soft Metric

a. A soft metric measurement is indicated by an SI value which is a mathematical conversion of the I-P value shown in parentheses (e.g. 38.1 mm (1-1/2 inches)). Soft metric measurements are used for measurements pertaining to products, test values, and other situations where the I-P units are the standard for manufacture, verification, or other controlling factor. The I-P value shall govern while the metric measurement is provided for information.

b. A soft metric measurement is also indicated for products that are manufactured in industry designated metric dimensions but are required by law to allow substitute I-P products. These measurements are indicated by a manufacturing hard metric product dimension followed by the substitute I-P equivalent value in parentheses (e.g., 190 x 190 x 390 mm (7-5/8 x 7-5/8 x 15-5/8 inches)).

1.3.3 Neutral

A neutral measurement is indicated by an identifier which has no expressed relation to either an SI or an I-P value (e.g., American Wire Gage (AWG) which indicates thickness but in itself is neither SI nor I-P).

1.4 COORDINATION

Discrepancies, such as mismatches or product unavailability, arising from use of both metric and non-metric measurements and discrepancies between the measurements in the specifications and the measurements in the drawings shall be brought to the attention of the Contracting Officer for resolution.

1.5 RELATIONSHIP TO SUBMITTALS

Submittals for Government approval or for information only shall cover the SI or I-P products actually being furnished for the project. The Contractor shall submit the required drawings and calculations in the same units used in the contract documents describing the product or requirement unless otherwise instructed or approved. The Contractor shall use ASTM SI 10 and ASTM E 621 as the basis for establishing metric measurements required to be used in submittals.

-- End of Section --

SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

ACI INTERNATIONAL (ACI)
P.O. Box 9094
Farmington Hills, MI 48333-9094
Ph: 248-848-3700
Fax: 248-848-3701
Internet: http://www.aci-int.org

AIR CONDITIONING AND REFRIGERATION INSTITUTE (ARI)
4100 North Fairfax Dr., Suite 200
ATTN: Pubs Dept.
Arlington, VA 22203
Ph: 703-524-8800
Fax: 703-528-3816
E-mail: ari@ari.org
Internet: http://www.ari.org

AIR CONDITIONING CONTRACTORS OF AMERICA (ACCA)
2800 Shirlington Road, Suite 300
Arlington, VA 22206
Ph: 703-575-4477
FAX: 703-575-4449
Internet: http://www.acca.org

AIR DIFFUSION COUNCIL (ADC)
1000 East Woodfield Road, Suite 102
Shaumburg, IL 60173-5921
Ph: 847-706-6750
Fax: 847-706-6751
Internet: http://www.flexibleduct.org

AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL(AMCA)
30 W. University Dr.
Arlington Heights, IL 60004-1893
Ph: 847-394-0150
Fax: 847-253-0088
Internet: http://www.amca.org

ALUMINUM ASSOCIATION (AA)
900 19th Street N.W., Ste 300
Washington, DC 20006
Ph: 202-862-5100
Fax: 202-862-5164
Internet: http://www.aluminum.org

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)
1827 Walden Ofc. Sq.
Suite 104
Schaumburg, IL 60173-4268
Ph: 847-303-5664
Fax: 847-303-5774
Internet: http://www.aamanet.org

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 N. Capital St., NW, Suite 249
Washington, DC 20001
Ph: 202-624-5800
Fax: 202-624-5806
Internet: http://www.aashto.org

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)
P.O. Box 12215
Research Triangle Park, NC 27709-2215
Ph: 919-549-8141
Fax: 919-549-8933
Internet: http://www.aatcc.org

AMERICAN BEARING MANUFACTURERS ASSOCIATION (ABMA)
2025 M Street, NW, Suite 800
Washington, DC 20036
Ph: 202-367-1155
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U.S. DEPARTMENT OF STATE (SD)
2201 C Street, NW
Washington, DC 20520
Ph: 202-647-4000
Internet: http://www.state.gov

U.S. DEPARTMENT OF TRANSPORTATION (DOT)
400 7th Street, SW
Washington, DC 20590
PH: 202-366-4000
Internet: http://www.dot.gov

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Ph: 202-260-2090
FAX: 202-260-6257
Internet: http://www.epa.gov

NOTE --- Some documents are available only from:
National Technical Information Services (NTIS)
5285 Port Royal Rd.
Springfield, VA 22161
Ph: 703-605-6000
Fax: 703-605-6900
Internet: http://www.ntis.gov

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)
Order for sale documents from:
Superintendant of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
PH: 202-512-1800 (order desk)
Internet: http://www.gpo.gov

Order free documents from:
Federal Aviation Administration
Dept. of Transportation
Ardmore East Business Center
33410 75th Avenue
Landover, MD 20785
Ph:
FAX: 301-386-5394
Internet: http://www.faa.gov

U.S. FEDERAL COMMUNICATIONS COMMISSION (FCC)
445 12th Street SW
Washington, DC 20554
Phone: 888-CALL-FCC
Fax: 202-418-0232
Internet: http://www.fcc.gov
E-mail: fccinfo@fcc.gov

U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
500 C Street, SW
Washington, D.C. 20472
Phone: 202-566-1600
Internet: http://www.fema.gov

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
Office of Highway Safety (HHS-31)
400 Seventh St., SW
Washington, DC 20590-0001
Ph: 202-366-0411
Fax: 202-366-2249
Internet: http://www.fhwa.dot.gov
Order from:

Superintendant of Documents
U. S. Government Printing Office
732 North Capitol Street, NW
Mailstop: SDE
Washington, DC 20401
Ph: 866-512-1800 or 202-512-1800
Fax: 202-512-2250
Internet: http://www.gpo.gov

U.S. GENERAL SERVICES ADMINISTRATION (GSA)
General Services Administration
1800 F Street, NW
Washington, DC 20405
PH: 202-501-0705

Order from:
General Services Administration
Federal Supply Service Bureau
1941 Jefferson Davis Highway
Arlington, VA 22202
PH: 703-605-5400
Internet: http://www.fss.gsa.gov/pub/fed-specs.cfm

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
700 Pennsylvania Avenue, N.W.
Washington, D.C. 20408
Phone: 866-325-7208
Internet: http://www.archives.gov

Order documents from:
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U.S.Government Printing Office
732 North Capitol Street, NW
Washington, DC 20401
Mailstop: SDE
Ph: 866-512-1800 or 202-512-1800
Fax: 202-512-2250
Internet: http://www.gpo.gov
E-mail: gpoaccess@gpo.gov

U.S. NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)
1510 Gilbert St.
Norfolk, VA 23511-2699
Ph: 757-322-4200
Fax: 757-322-4416
Internet: http://www.efdlant.navfac.navy.mil/LANTOPS_15

U.S. NAVAL FACILITIES ENGINEERING SERVICE CENTER (NFESC)
1100 23rd Avenue
Port Hueneme, CA 93043-4370
Ph: 805-982-4980
Internet: http://www.nfesc.navy.mil

WATER ENVIRONMENT FEDERATION (WEF)
601 Wythe St.
Alexandria, VA 22314-1994
Ph: 703-684-2452
Fax: 703-684-2492
Internet: http://www.wef.org

WATER QUALITY ASSOCIATION (WQA)
4151 Naperville Rd.
Lisle, IL 60532
Ph: 630-505-0160
Fax: 630-505-9637
Internet: http://www.wqa.org
e-mail: info@mail.wqa.org

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)
P.O. Box 23145
Portland, OR 97281
Ph: 503-639-0651
Fax: 503-684-8928
Internet: http://www.wclib.org
e-mail: info@wclib.org

WESTERN WOOD PRESERVERS INSTITUTE (WWPI)
7017 N.E. Highway 99 # 108
Vancover, WA 98665
Ph: 360-693-9958
Fax: 360-693-9967
Internet: http://www.wwpinstitute.org
e-mail: info@wwpinstitute.org

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)
Yeon Bldg.
522 SW 5th Ave.
Suite 500
Portland, OR 97204-2122
Ph: 503-224-3930
Fax: 503-224-3934
Internet: http://www.wwpa.org
e-mail: info@wwpa.or

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)
1400 East Touhy Ave., Suite 470
Des Plaines, IL 60018
Ph: 847-299-5200 or 800-223-2301
Fax: 708-299-1286
Internet: http://www.wdma.com
e-mail: admin@wdma.com

WOOD MOULDING AND MILLWORK PRODUCERS ASSOCIATION (WMMPA)
507 First Street
Woodland, CA 95695
Ph: 530-661-9591 or 800-550-7889
Fax: 530-661-9586
Internet: http://www.wmmpa.com

-- End of Section --

SECTION 01450

DESIGN AND CONSTRUCTION QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM A 880 (1995) Criteria for Use in Evaluation of Testing Laboratories and Organizations for Examination and Inspection of Steel, Stainless Steel, and Related Alloys

ASTM C 1077 (2003) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation

ASTM D 3666 (2003) Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

ASTM D 3740 (2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E 329 (2002) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

ASTM E 543 (2002) Agencies Performing Nondestructive Testing

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety -- Safety and Health Requirements

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECT:

SD-01 Preconstruction Submittals

Design Quality Control (DQC) Plan; G
Construction Quality Control (QC) Plan; G

Submit a DQC plan within 15 calendar days following the Notice to Proceed (NTP). Submit a Construction QC plan within 45 calendar days after NTP. The QC Plan shall include a preliminary submittal of the list of definable features of work that shall cover the first 60 days of construction. The design development efforts shall be included as a definable feature of the Network Analysis Schedule. Submit the completed list of definable features of work in conjunction with the

Accepted Network Analysis Schedule, but prior to commencement of any of the associated work activities.

Acceptance by the Government of the QC Plan shall be considered to be "accepted as noted, re-submittal required" and will be in effect only until the completed list of definable features of work is received and accepted. If the completed list of definable features of work and accepted network schedule is not received within the time indicated in the paragraph entitled "Baseline Network Analysis Schedule" of Section 01321 DESIGN-BUILD NETWORK ANALYSIS SCHEDULES, the QC Plan will become rejected and all work, except for the work authorized in the paragraph entitled "Preliminary Construction Work Authorized Prior to Acceptance," will stop.

The most recent draft or the accepted DQC Plan and CQ Plan, shall be uploaded to and accessible on the Contractor's Project FTP site.

1.3 INFORMATION FOR THE CONTRACTING OFFICER

(Prior to commencing work on construction, the Contractor can download a single copy set of the current report forms. See Section 1.17.11 Report Forms.) The report forms will consist of the Contractor Production Report, Contractor Production Report (Continuation Sheet), Contractor Quality Control Report, Contractor Quality Control Report (Continuation Sheet), Preparatory Phase Checklist, Initial Phase Checklist, Rework Items List, and Testing Plan and Log. Other reports referenced below may be in formats customarily used by the Contractor, Testing Laboratories, etc. and will contain the information required by this specification.

Deliver the following to the Contracting Officer during Design:

a. DQC Meeting Minutes and Reports: Provide minutes or reports within 3 working days after any meeting or decision is made. This report shall include copies of any meeting minutes that take place and/or the minutes of the Design Status Meeting.

b. DQC Certification: as required by the paragraph entitled Design Quality Control Report Certification.

Deliver the following to the Contracting Officer during Construction:

a. Contractor Quality Control Report: Submit the report by 10:00 AM the next working day after each day that work is performed

b. Contractor Production Report: Submit the report by 10:00 AM the next working day after each day that work is performed.

c. Preparatory Phase Checklist: Submit the report in the same manner as the Contactor Quality Control Report, original attached to the original Contractor Quality Control Report and 1 copy attached to each QC Report copy.

d. Initial Phase Checklist: Submit the report in the same manner as the Contactor Quality Control Report, original attached to the original Contractor Quality Control Report and 1 copy attached to each QC Report copy.

e. QC Specialist Reports: Submit the report by 10:00 AM the next working day after each day that work is performed.

f. Field Test Reports: Within 2 working days after the test is performed, submit the report as an attachment to the Contactor Quality Control Report.

g. Monthly Summary Report of Tests: Submit the report as an attachment to the Contactor Quality Control Report.

h. Testing Plan and Log: Submit the report as an attachment to the Contactor Quality Control Report, at the end of each month.

i. Rework Items List: Submit entries to this report daily, in the same manner as the Contractor Quality Control Report.

j. QC Meeting Minutes: Within 2 working days after the meeting, submit the minutes as an attachment to the Contactor Quality Control Report.

k. QC Certifications: As required by the paragraph entitled "QC Certifications."

1.4 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a DQC and QC Organization, both under the cognizance of the Project Quality Control Manager, (hereafter known as the QC Manager); DQC and QC Plan(s), DQC and QC Plan Meeting(s), a Coordination and Mutual Understanding Meeting, DQC meetings and QC meetings, three phases of control, submittal review and approval, testing, completion inspections, and QC certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this Contract. The QC program shall cover on-site and off-site work and shall be keyed to the work sequence. No construction work or testing may be performed unless the QC Manager is on the work site. The QC Manager shall report to an officer of the firm and shall not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent, DQC Manager, and Project Manager must work together effectively. Although the Quality Control Manager is the primary individual responsible for quality control, all three individuals will be held responsible for the quality of work on the job. The project superintendent will be held responsible for the quality of production.

1.4.1 Acceptance of the Design Quality Control (DQC) Plan

Acceptance of the Contractor's DQC Plan is required prior to continuing design after contract award. Acceptance is conditional and will be predicated on satisfactory performance during design and construction. The Government reserves the right to require the Contractor to make changes in the DQC Plan and operations, including removal of the DQC Manager or other design personnel, as necessary, to obtain the quality of design specified. The Contracting Officer will notify the Contractor in writing of the acceptance of the DQC Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.

1.4.2 Preliminary Construction Work Authorized Prior to Acceptance

The only construction work that is authorized to proceed prior to the acceptance of the Construction QC Plan is mobilization of storage and office trailers, temporary utilities, and surveying.

1.4.3 Acceptance of the Construction Quality Control (QC) Plan

Acceptance of the Construction QC Plan is required prior to the start of construction. The Contracting Officer reserves the right to require changes in the QC Plan and operations as necessary, including removal of personnel, to ensure the specified quality of work. The Contracting Officer reserves the right to interview any member of the QC organization at any time in order to verify the submitted qualifications. All QC organization personnel shall be subject to acceptance by the Contracting Officer. The Contracting Officer may require the removal of any individual for non-compliance with quality requirements specified in the contract.

1.4.4 Notification of Changes

Notify the Contracting Officer, in writing, of any proposed change, including changes to the DQC Plan or changes in the QC organization personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes shall be subject to acceptance by the Contracting Officer.

1.5 QC ORGANIZATION

1.5.1 QC Manager

1.5.1.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program. The only duties and responsibilities of the QC Manager are to manage and implement the QC program on this contract. The QC Manager shall not be designated as the safety competent person as defined by EM 385-1-1. The QC Manager is required to attend the Pre-Construction Conference, design planning, design presentation and review meetings, Partnering Meetings, QC Plan Meetings, attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform the three phases of control except for those phases of control designated to be performed by QC specialists, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this contract. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by the QC specialists, Testing Laboratory personnel and any other inspection and testing personnel required by this Contract. The QC Manager is the manager of all QC Activities.

1.5.1.2 Qualifications

A graduate of a four year accredited college or university program in one of the following disciplines: Engineering, Architecture, Construction Management, Engineering Technology, Building Construction, or Building Science, with a minimum of 10 years experience as a superintendent, QC Manager, project manager, project engineer or construction manager on similar size and type construction contracts which included the major trades that are part of this Contract. The individual shall have at least 2 years experience as a QC Manager. The individual must be familiar with the requirements of EM 385-1-1, and have experience in the areas of hazard identification and safety compliance.

1.5.2 Design QC (DQC) Manager

1.5.2.1 DQC Manager Duties

Provide a DQC Manager as key person for the design, who is responsible for the design integrity, professional design standards and all services required by this design-build contract and Request for Proposal (RFP). The DQC shall be subordinate to the QC Manager, and shall have no other duties on the project other than Design Quality Control. The DQC Manager is responsible for development of the DQC Plan, incorporation and maintenance of the approved Design Schedule, which ultimately will become the initial portion of the overall project schedule, and the preparation of DQC Reports and minutes of all design meetings. The DQC Manager is required to attend the Post Award Conference, all design planning meetings, design presentations, partnering, DQC review meetings, and the DQC Plan Meeting. The DQC Manager may also perform the duties of the project designer's Project Manager. The DQC Manager implements the DQC plan and shall remain on staff until completion of the project. The DQC Manager has the responsibility for being cognizant of and assuring that all design documents on the project have been developed in accordance with the RFP, and been properly coordinated. The DQC Manager shall perform submittal review and approval functions for the QC Manager. The DQC Manager shall coordinate all factory and on-site testing, Testing Laboratory personnel and any other inspection and testing personnel required by this Contract.

1.5.2.2 DQC Manager Qualifications

The DQC Manager must be an individual with a minimum of 10 years experience as a design Architect or Engineer on similar size and type designs and or design-build contracts. Submit a resume, on the DQC qualifications, for approval of the Contracting Officer. Provide education, experience, and management capabilities on similar size and type contracts.

1.5.3 Construction Quality Management Training

In addition to the above experience and education requirements, the DQC Manager and QC Manager shall have completed the course entitled "Construction Quality Management for Contractors." If the QC Manager and/or the DQC Manager do not have a current certification, they shall obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled available CQM Training Class.

1.5.4 Alternate DQC and QC Manager Duties and Qualifications

Designate an alternate for the DQC and QC Managers at the work site to serve in the event of the designated DQC or QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate DQC and QC Manager[s] shall be the same as for the principle DQC and QC managers.

1.5.5 QC Specialists Duties and Qualifications

Provide a separate QC specialist at the work site for each of the areas of responsibilities, specified below, who shall assist and report to the QC Manager and who shall have no duties other than] their assigned quality control duties. QC specialists are required to attend the Coordination and Mutual Understanding Meeting, QC meetings, and be physically present at the construction site to perform the three phases of control and prepare documentation for each definable feature of work in their area of responsibility at the frequency specified below.

Registered Structural Engineer, (P.E.)	Erection of structural steel, coffers, piers, & all elements of bridge	Minimum twice a week
Civil Engineer	Concrete, roads, testing, survey, etc.	Minimum twice a week

1.5.6 QC Administrative Assistant

Provide an Administrative Assistant at the work site until the work has been accepted. The primary duty shall be to assist the Project QC Manager in processing and maintaining files for submittals, preparing and publishing reports and meeting minutes. After primary duties are accomplished, other duties may be assigned provided the duties do not interfere with primary duties.

1.6 QUALITY CONTROL (QC) PLANS

1.6.1 Design Quality Control (DQC) Plan

The Contractor's Designer of Record's organization shall provide and maintain a DQC Plan as an effective quality control program which will assure that all design services required by this contract are performed and provided in a manner that meets generally accepted professional architectural and engineering quality standards. As a minimum, competent, independent professional reviewers identified in the DQC Plan shall technically review all documents. The Contractor shall correct errors and deficiencies in the design documents, identified by the DQC Manager’s review efforts, prior to submitting them to the Government. The DQC Manager shall refer to the Unified Facilities Criteria (UFC) design specific requirements (www.wbdg.org/ndbm).

The DQC Plan documents the proposed method and responsibilities for accomplishing commissioning activities during the design phase of the project.

1.6.1.1 DQC Plan Requirements

Provide, for acceptance by the Contracting Officer, a DQC plan submitted in a 3-ring binder with pages numbered sequentially that includes the following:

a. A table of contents listing the major sections identified with tabs in the following order:

I. DQC ORGANIZATION
II. NAME, QUALIFICATIONS AND DUTIES OF THE DQC MANAGER
III. DESIGN ORGANIZATIONS
IV. APPOINTMENT LETTERS
V. SUBMITTAL PROCEDURES
VI. LIST OF DESIGN DELIVERABLES
VII. DOCUMENTATION PROCEDURES AND STATUS REPORTS
VIII. SYSTEMS LIST

b. A chart showing the DQC organizational structure.

c. Name and qualifications, in resume format, along with Duties responsibilities and authority of the DQC Manager as specified in this specification.

d. Design Organizations such as the prime A/E and any consulting engineering firms or individual professionals assigned to this Project Design Team. Provide the names and professional affiliation of all the Design Team members assigned this Project.

e. A letter signed by an officer of the Design Build (DB) firm (that has this contract) appointing the DQC Manager and Alternate DQC Manager and stating that they are responsible for implementing and managing the DQC Program as described in this contract. Include in this letter the responsibility of the DQC Manager to implement and manage the Design portion of this DB contract and their authority to change the design or direction of design, which may not be in compliance with the RFP. Also state that the DQC Manager shall report to the QC Manager as required.

f. Provide a description of the management and controls process proposed for reviewing, approving and managing design submittals.

g. As a minimum the list of design deliverables shall include but not limited to those identified in the RFP.

h. Indicate Documentation Procedures including weekly DQC Reports to the QC Manager. Maintain current and complete records of design activities, providing a weekly design status report to the QC Manager and the Contracting Officer.

1.6.2 Construction Quality Control (QC) Plan

1.6.2.1 Requirements

The Construction QC Plan documents the proposed method and responsibilities for accomplishing commissioning activities during the construction of the project. Provide, for acceptance by the Contracting Officer, a Construction QC plan submitted in a 3-ring binder with pages numbered sequentially that covers both on-site and off-site work and includes the following:

a. A table of contents listing the major sections identified with tabs in the following order:

I. QC ORGANIZATION
II. NAMES AND QUALIFICATIONS
III. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONNEL
IV. OUTSIDE ORGANIZATIONS
V. APPOINTMENT LETTERS
VI. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER
VII. TESTING LABORATORY INFORMATION
VIII. TESTING PLAN AND LOG
IX. PROCEDURES TO COMPLETE REWORK ITEMS
X. DOCUMENTATION PROCEDURES
XI. LIST OF DEFINABLE FEATURES
XII. PROCEDURES FOR PERFORMING THE THREE PHASES OF CONTROL
XIII. PERSONNEL MATRIX
XIV. PROCEDURES FOR COMPLETION INSPECTION

b. A chart showing the QC organizational structure.

c. Names and qualifications, in resume format, for each person in the QC organization. Include the CQM for Construction course

certifications for the QC Manager and Alternate QC Manager as required by the paragraphs entitled "Construction Quality Management Training" and "Alternate QC Manager Duties and Qualifications".

d. Duties, responsibilities and authorities of each person in the QC organization.

e. A listing of outside organizations such as, architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.

f. Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager and stating that they are responsible for implementing and managing the QC program as described in this contract. Include in this letter the responsibility of the QC Manager and Alternate QC Manager to implement and manage the three phases of quality control, and their authority to stop work which is not in compliance with the contract. The QC Manager shall issue letters of direction to all other QC specialists outlining their duties, authorities, and responsibilities. Copies of the letters shall be included in the QC plan.

g. Procedures for reviewing, approving and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval. Provide the initial submittal of the Submittal Register as specified in section entitled "Submittal Procedures."

h. Testing laboratory information required by the paragraphs entitled "Accreditation Requirements" or "Construction Materials Testing Laboratory Requirements", as applicable.

i. A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.

j. Procedures to identify, record, track and complete rework items.

k. Documentation procedures, including proposed report formats.

l. List of definable features of work. A definable feature of work (DFOW) is a task, which is separate and distinct from other tasks, has the same control requirements and work crews. The list shall be cross-referenced to the contractor's Construction Schedule and the specification sections. For projects requiring a Network Analysis Schedule, the list of definable features of work shall include but not be limited to all critical path activities.

m. Procedures for Performing the Three Phases of Control. For each DFOW, provide the DFOW-specific Preparatory and Initial Phase Checklists. Each list shall include a breakdown of quality checks that will be used when performing the quality control functions, inspections, and tests required by the contract documents. The Preparatory and Initial Phases and meetings shall be conducted with a view towards obtaining quality construction by planning ahead and identifying potential problems for each definable feature of work.

n. A personnel matrix showing, for each section of the specification, who will review and approve submittals, who will perform and document the three phases of control, and who will perform and document the testing.

o. Procedures for Identifying and Documenting the Completion Inspection process. Include in these procedures the responsible party for punch out inspection, pre-final inspection, and final acceptance inspection.

1.7 DQC and QC PLAN MEETINGS

1.7.1 DQC Plan Meeting

Prior to start of design and following the Post Award Kickoff Meeting as identified in the RFP, the DQC Manager and their design A/E team along with the QC Manager shall meet with the Contracting Officer to discuss the DQC Plan and schedule requirements of this contract. The purpose of this meeting is to develop a mutual understanding of the DQC Plan requirements prior to plan development and submission.

1.7.2 QC Plan Meeting

Prior to submission of the QC Plan, The QC Manager will meet with the Contracting Officer to discuss the QC plan requirements of this contract. The purpose of this meeting is to develop a mutual understanding of the Construction QC plan requirements prior to plan development and submission and to agree on the Contractor's list of definable features of work.

1.8 COORDINATION AND MUTUAL UNDERSTANDING MEETING

After submission of the QC Plan, and prior to the start of construction, the QC Manager will meet with the Contracting Officer to present the QC program required by this Contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, and the coordination of the Contractor's management, production and QC personnel. At the meeting, the Contractor will be required to explain in detail how three phases of control will be implemented for each definable feature of work. As a minimum, the Contractor's personnel required to attend shall include an officer of the firm, the project manager, project superintendent, QC Manager, Alternate QC Manager, QC specialists, DQC Manager, A/E, and subcontractor representatives. Each subcontractor who will be assigned QC responsibilities shall have a principal of the firm at the meeting. Minutes of the meeting will be prepared by the QC Manager and signed by the Contractor, the A/E, and the Contracting Officer. A copy of the signed minutes shall be provided to all attendees by the Contractor and shall be included in the QC Plan. Repeat the coordination and mutual understanding meeting when a new QC Manager is appointed.

1.9 DQC MEETINGS

After the start of design, the DQC Manager shall conduct, at a minimum, weekly meetings with the design team. The QC Manager shall participate in all meetings and the Contracting Officer will be given the opportunity to participate. The DQC Manager shall prepare the minutes of these meetings providing: progress and status of the design, schedule

performance with details and correction periods, provide all forward planning ideas to keep design on schedule, provide update on any changes to the schedule. A copy of the meeting minutes shall be provided to the Contracting Officer. The QC Manger will attend all of these meeting and the Contracting Officer will be given the opportunity to attend. Notification of all monthly meetings will be given 5 working days in advance.

a. Review the minutes of the previous meeting;

b. Review the schedule and the status of work:

c. Update the schedule showing actual start/finish dates, new activities, new relationships, remaining durations and establish new planned dates;

d. Review the work to be accomplished in the next 2 weeks and documentation required;

e. Assist in resolving Request for Information issues; and

f. Address items that may require revising the DQC or QC Plan.

1.10 QC Meetings

After the start of construction, the QC Manager shall conduct weekly QC meetings at the work site with the project superintendent, QC specialists, and the DQC Manager. The QC Manager shall prepare the minutes of the meeting and provide a copy to the Contracting Officer within 2 working days after the meeting. The Contracting Officer may attend these meetings. The QC Manager shall notify the Contracting Officer at least 48 hours in advance of each meeting. As a minimum, the following shall be accomplished at each meeting:

a. Review the minutes of the previous meeting;

b. Review the schedule and the status of work:

(1) Work or testing accomplished since last meeting

(2) Rework items identified since last meeting

(3) Rework items completed since last meeting;

c. Review the status of submittals:

(1) Submittals reviewed and approved since last meeting

(2) Submittals required in the near future;

d. Review the work to be accomplished in the next 2 weeks and documentation required:

(1) Establish completion dates for rework items

(2) Update the schedule showing planned and actual dates of the preparatory, initial and follow-up phases, including testing and any other inspection required by this contract

(3) Discuss construction methods and the approach that will be used to provide quality construction by planning ahead

and identifying potential problems for each definable feature of work

(4) Discuss status of off-site work or testing

(5) Documentation required;

(6) Discuss upcoming Activity Hazard Analyses:

e. Resolve QC and production problems:

(1) Assist in resolving Request for Information issues; and

f. Address items that may require revising the QC plan:

(1) Changes in QC organization personnel

(2) Changes in procedures;

g. Review health and safety plan

1.11 THREE PHASES OF CONTROL

The Three Phases of Control shall adequately cover both on-site and off-site work and shall include the following for each definable feature of work.

1.11.1 Preparatory Phase

Notify the Contracting Officer at least 2 work days in advance of each preparatory phase. This phase shall include a meeting conducted by the QC Manager and attended by the QC specialists, the superintendent, and the foreman responsible for the definable feature. Document the results of the preparatory phase actions in the daily Contractor Quality Control Report and in the Preparatory Phase Checklist. Perform the following prior to beginning work on each definable feature of work:

a. Review each paragraph of the applicable specification sections;

b. Review the Contract drawings;

c. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required;

d. Review the testing plan and ensure that provisions have been made to provide the required QC testing;

e. Examine the work area to ensure that the required preliminary work has been completed;

f. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data;

g. Discuss construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each definable feature of work; and

h. Review the safety plan and appropriate activity hazard analysis to ensure that applicable safety requirements are met, and that required Material Safety Data Sheets (MSDS) are submitted.

1.11.2 Initial Phase

Notify the Contracting Officer at least 2 work days in advance of each initial phase. When construction crews are ready to start work on a definable feature of work, conduct the initial phase with the QC Specialists, the superintendent, and the foreman responsible for that definable feature of work. Observe the initial segment of the definable feature of work to ensure that the work complies with Contract requirements. Document the results of the initial phase in the daily Contractor Quality Control Report and in the Initial Phase Checklist. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Perform the following for each definable feature of work:

a. Establish the quality of workmanship required;

b. Resolve conflicts;

c. Ensure that testing is performed [by the approved laboratory], and

d. Check work procedures for compliance with the Safety Plan and the appropriate activity hazard analysis to ensure that applicable safety requirements are met.

1.11.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary until the completion of each definable feature of work and document in the daily Contractor Quality Control Report:

a. Ensure the work is in compliance with Contract requirements;

b. Maintain the quality of workmanship required;

c. Ensure that testing is performed by the approved laboratory;

d. Ensure that rework items are being corrected; and

e. Perform safety inspections.

1.11.4 Additional Preparatory and Initial Phases

Additional Preparatory and Initial Phases shall be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a definable feature is resumed after substantial period of inactivity, or if other problems develop.

1.11.5 Notification of Three Phases of Control for Off-Site Work
Notify the Contracting Officer at least two weeks prior to the start of the preparatory and initial phases.

1.12 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review and approval of submittals are described in Section 01335 "Submittal Procedures."

1.13 TESTING

Except as stated otherwise in the specification sections, perform sampling and testing required under this Contract.

1.13.1 Accreditation Requirements

Construction materials testing laboratories performing work under this Contract will be required to submit the following:

a. A copy of the Certificate of Accreditation and Scope of Accreditation by an acceptable laboratory accreditation authority.

Construction materials testing laboratories performing work under this Contract must be accredited by one of the laboratory accreditation authorities. The laboratory's scope of accreditation must include the ASTM standards listed in the paragraph titled "Construction Materials Testing Laboratory Requirements" as appropriate to the testing field. The policy applies to the specific laboratory performing the actual testing, not just the "Corporate Office".

1.13.2 Construction Materials Testing Laboratory Requirements

Provide an independent construction materials testing laboratory, or establish a laboratory, accredited by an acceptable laboratory accreditation authority to perform sampling and tests required by this Contract. Testing laboratories that have obtained accreditation by an acceptable laboratory accreditation authority listed in the paragraph entitled "Laboratory Accreditation Authorities" submit to the Contracting Officer, a copy of the Certificate of Accreditation and Scope of Accreditation. The scope of the laboratory's accreditation shall include the test methods required by the Contract. For testing laboratories that have not yet obtained accreditation by an acceptable laboratory accreditation authority listed in the paragraph entitled "Laboratory Accreditation Authorities" submit an acknowledgment letter from one of the laboratory accreditation authorities indicating that the application for accreditation has been received and the accreditation process has started, and submit to the Contracting Officer for approval, certified statements, signed by an official of the testing laboratory attesting that the proposed laboratory, meets or conforms to the ASTM standards listed below as appropriate to the testing field.

a. Laboratories engaged in testing of construction materials shall meet the requirements of ASTM E 329.

b. Laboratories engaged in testing of concrete and concrete aggregates shall meet the requirements of ASTM C 1077.

c. Laboratories engaged in testing of bituminous paving materials shall meet the requirements of ASTM D 3666.

d. Laboratories engaged in testing of soil and rock, as used in engineering design and construction, shall meet the requirements of ASTM D 3740.

e. Laboratories engaged in inspection and testing of steel, stainless steel, and related alloys will be evaluated according to ASTM A 880.

f. Laboratories engaged in nondestructive testing (NDT) shall meet the requirements of ASTM E 543.

1.13.3 Laboratory Accreditation Authorities

Laboratory Accreditation Authorities include:

National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology at http://ts.nist.gov/ts/htdocs/210/214/214.htm,

American Association of State Highway and Transportation Officials (AASHTO) program at http://www.transportation.org/aashto/home.nsf/frontpage,

International Accreditation Services, Inc. (IAS) at http://www.iasonline.org,

U. S. Army Corps of Engineers Materials Testing Center (MTC) at http://www.wes.army.mil/SL/MTC/, and

American Association for Laboratory Accreditation (A2LA) program at http://www.a21a2.net/

Furnish to the Contracting Officer, a copy of the Certificate of Accreditation and Scope of Accreditation. The scope of the laboratory's accreditation shall include the test methods required by the Contract.

1.13.4 Capability Check

The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this Contract.

1.13.5 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the Contracting Officer immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results shall be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contracting Officer via the DQC and QC Manager. Furnish a summary report of field tests at the end of each month. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month.

1.13.6 Test Reports and Monthly Summary Report of Tests

The QC Manager shall furnish the signed reports, certifications, and a summary report of field tests at the end of each month to the contracting Officer. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month. A copy of the signed test reports and certifications shall be provided to the OMSI preparer for inclusion into the OMSI documentation.

1.14 QC CERTIFICATIONS

1.14.1 Design Quality Control Report Certification

The DQC Manager will provide QC certification for design compliance. Each DQC Report shall contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and the design team is accomplishing this design in compliance with the RFP to the best of my knowledge, except as noted in this report." A copy of the final QC Certification for design compliance with a statement indicating final acceptance shall be provided to the OMSI preparer for inclusion into the OMSI documentation.

1.14.2 Contractor Quality Control Report Certification

Each Contractor Quality Control Report shall contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge, except as noted in this report."

1.14.3 Invoice Certification

Furnish a certificate to the Contracting Officer with each payment request, signed by the QC Manager, attesting that the Design documents, and as-built drawings are current, coordinated and attesting that the work for which payment is requested, including [design submittals and stored material, is in compliance with contract requirements.

1.14.4 Completion Certification

Upon completion of work under this Contract, the QC Manager shall furnish a certificate to the Contracting Officer attesting that "the work has been completed, inspected, tested and is in compliance with the Contract."

1.15 COMPLETION INSPECTIONS

1.15.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Contract Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager and the DQC Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved design, drawings, or specifications. Include in the punch list any remaining items on the "Rework Items List" which were not corrected prior to the Punch-Out Inspection. The punch list shall include the estimated date by which the deficiencies will be corrected. A copy of the punch list shall be provided to the Contracting Officer. The QC Manager or staff shall make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government "Pre-Final Inspection."

1.15.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government "Pre-Final Punch List" may be developed as a result of this inspection. The QC Manager shall ensure that all items on this list are corrected prior to notifying the Government that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-Final" inspection shall be

corrected in timely manner and shall be accomplished before the contract completion date for the work or any particular increment thereof if the project is divided into increments by separate completion dates.

1.15.3 Final Acceptance Inspection

The QC Manager, the QC specialists, the DQC Manager, the superintendent or other primary contractor management personnel, and the Contracting Officer's representative will be in attendance at this inspection. Additional Government personnel may be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the "Pre-Final Inspection". Notice shall be given to the Contracting Officer at least 14 days prior to the final inspection stating that all specific items previously identified to the Contractor as being unacceptable, along with all the remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract Clause entitled "Inspection of Construction." When the Contracting Officer takes possession of partially completed work, it will be in accordance with Contract Clause
"Use and Possession Prior to Completion".

1.16 Not used.

1.17 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities.

1.17.1 DQC Documentation

DQC Documentation is required in this contract. The DQC Manager will provide DQC Reports. Include in this report the minutes and status of all design meetings, site visits, inspections, and schedule related activities as required in the RFP.

1.17.2 Contractor Production Report

Reports are required for each day that work is performed and shall accompany the submission of the Contractor Quality Control Report prepared for the same day. This requirement shall commence at the beginning of the construction phase of work and continue through final completion of the contract. Account for each calendar day throughout the life of the Contract. The reporting of work shall be identified by terminology consistent with the construction schedule. Contractor Production Reports are to be prepared, signed and dated by the project superintendent and shall contain the following information:

a. Date of report, report number, name of contractor, Contract number, title and location of Contract and superintendent present.

b. Weather conditions in the morning and in the afternoon including maximum and minimum temperatures.

c. Identify work performed by corresponding Schedule Activity No., PC#, Modification No., etc.

d. A list of Contractor and subcontractor personnel on the work site, their trades, employer, work location, description of work performed, hours worked by trade, daily total work hours on work site this date (include hours on continuation sheets), and total work hours from start of construction.

e. A list of job safety actions taken and safety inspections conducted. Indicate that safety requirements have been met including the results on the following:

(1) Was a job safety meeting held this date? (If YES, attach a copy of the meeting minutes.)

(2) Were there any lost time accidents this date? (If YES, attach a copy of the completed OSHA report.)

(3) Was crane/manlift/trenching/scaffold/hv/electrical/high work/hazmat work done? (If YES, attach a statement or checklist showing inspection performed.)

(4) Was hazardous material/waste released into the environment? (If YES, attach a description of incident and proposed action.)

f. Identify Schedule Activity No. related to safety action and list safety actions taken today and safety inspections conducted.

g. Identify Schedule Activity No., Submittal # and list equipment/material received each day that is incorporated into the job.

h. Identify Schedule Activity No., Owner and list construction and plant equipment on the work site including the number of hours used.

i. Include a "remarks" section in this report which will contain pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site. For each remark given, identify the Schedule Activity No. that is associated with the remark.

1.17.2.1 Contractor Production Report (Continuation Sheet)

Additional space required to contain daily information on the Contractor Production Report will be placed on its Continuation Sheet(s). An unlimited number of Continuation Sheets may be added as necessary and attached to the Production Report.

1.17.3 Contractor Quality Control Report

Reports are required for each day that work is performed, including design work, and for every seven consecutive calendar days of no-work and on the last day of a no-work period. Account for each calendar day throughout the life of the Contract. The reporting of work shall be identified by terminology consistent with the construction schedule. Contractor Quality Control Reports are to be prepared, signed and dated by the Project QC Manager and shall contain the following information:

a. Date of report, report number, Contract Number, and Contract Title.

b. Indicate if Preparatory Phase work was performed today (Yes/No checkboxes).

c. If Preparatory Phase work was performed today (including on-site and off-site work), identify its Schedule Activity No. and Definable Feature of Work. The Index # is a cross reference to the Preparatory Phase Checklist. An example of the Index # is: 0025-P01, where "0025" is the Contractor Quality Control Report Number, "P" indicates Preparatory Phase, and "01" is the Preparatory Phase Checklist number(s) for this date. Each entry in this section must be accompanied with a corresponding Preparatory Phase Checklist.

d. Indicate if Initial Phase work was performed today (Yes/No checkboxes).

e. If Initial Phase work was performed today (including on-site and off-site work), identify its Schedule Activity No. and Definable Feature of Work. The Index # is a cross reference to the Initial Phase Checklist. An example of the Index # is: 0025-I01, where "0025" is the Contractor Quality Control Report Number, "I" indicates Initial Phase, and "01" is the Initial Phase Checklist number(s) for this date. Each entry in this section must be accompanied with a corresponding Initial Phase Checklist.

f. Results of the Follow-up Phase inspections held today (including on-site and off-site work), including Schedule Activity No., the location of the definable feature of work, Specification Sections, etc. Indicate in the report for this definable feature of work that the work complies with the Contract as approved in the Initial Phase, work complies with safety requirements, and that required testing has been performed and include a list of who performed the tests.

g. List the rework items identified, but not corrected by close of business; along with its associated Schedule Activity Number.

h. List the rework items corrected from the rework items list along with the corrective action taken and its associated Schedule Activity Number.

i. Include a "remarks" section in this report which will contain pertinent information including directions received, quality control problem areas, deviations from the QC plan, construction deficiencies encountered, QC meetings held, acknowledgement that as-built drawings have been updated, corrective direction given by the QC Organization and corrective action taken by the Contractor. For each remark given, identify the Schedule Activity No. that is associated with the remark.

j. Contractor Quality Control Report certification, signature and date.

1.17.3.1 Contractor Quality Control Report (Continuation Sheet)

Additional space required to contain daily information on the Contractor Quality Control Report will be placed on its Continuation Sheet(s). An unlimited number of Continuation Sheets may be added as necessary and attached to the Contractor Quality Control Report.

1.17.4 Preparatory Phase Checklist

Each Definable Feature of Work that is in the Preparatory Phase shall have this checklist filled out for it. The checklist shall be identified by terminology consistent with the construction schedule. This checklist shall accompany the submission of the Contractor Quality Control Report of the same date.

a. Specification Section, date of report, and Contract number shall be filled out. Duplicate this information in the header of the second page of the report.

b. Definable Feature of Work, Schedule Activity No. and Index # entry and format will match entry in the Preparatory Phase section of the Contractor Quality Control Report. Duplicate this information in the header of the second page of the report.

c. Personnel Present: Indicate the number of hours of advance notice that was given to the Government Representative and indicate (Yes/No checkboxes) whether or not the Government Rep was notified. Indicate the Names of Preparatory Phase Meeting attendees, their position and company/government they are with.

d. Submittals: Indicate if submittals have been approved (Yes/No checkboxes), if no indicate what has not been submitted. Are materials on hand (Yes/No checkboxes) and if not, what items are missing. Check delivered material/equipment against approved submittals and comment as required.

e. Material Storage: Indicate if materials/equipment is stored properly (Yes/No checkboxes) and if not, what action is/was taken.

f. Specifications: Review and comment on Specification Paragraphs that describe the material/equipment, procedure for accomplishing the work and clarify any differences.

g. Preliminary Work & Permits: Ensure preliminary work is in accordance with the contract documents and necessary permits are on file, if not, describe the action taken.

h. Testing: Identify who performs tests, the frequency, and where tests are to occur. Review the testing plan, report abnormalities, and if the test facilities have been approved.

i. Safety: Indicate if the activity hazard analysis has been approved (Yes/No checkboxes) and comment on the review of the applicable portions of the EM 385-1-1.

j. Meeting Comments: Note comments and remarks during the Preparatory Phase Meeting that was not addressed in previous sections of this checklist.

k. Other Items or Remarks: Note any other remarks or items that were a result of the Preparatory Phase.

l. QC Manager will sign and date the checklist.

1.17.5 Initial Phase Checklist

Each Definable Feature of Work that is in the Initial Phase shall have this checklist filled out for it. The checklist shall be identified by terminology consistent with the construction schedule. This checklist shall accompany the submission of the Contractor Quality Control Report of the same date.

a. Specification Section, date of report, and Contract number shall be entered.

b. Definable Feature of Work, Schedule Activity No. and Index # entry and format will match entry in the Initial Phase section of the Contractor Quality Control Report.

c. Personnel Present: Indicate the number of hours of advance notice that was given to the Government Representative and indicate (Yes/No checkboxes) whether or not the Government Rep was notified. Indicate the Names of Initial Phase Meeting attendees, their position and company/government they are with.

d. Procedure Compliance: Comment on compliance with procedures identified at Preparatory Phase of Control and assurance that work is in accordance with plans, specifications and submittals.

e. Preliminary Work: Ensure preliminary work being placed is in compliance and if not, what action is/was taken.

f. Workmanship: Identify where initial work is located; if a sample panel is required (Yes/No checkboxes); is the initial work the sample (Yes/No checkboxes); and if Yes, describe the panel location and precautions taken to preserve the sample.

g. Resolution: Comment on any differences and the resolutions reached.

h. Check Safety: Comment on the safety review of the job conditions.

i. Other: Note any other remarks or items that were a result of the Initial Phase.

j. QC Manager will sign and date the checklist.

1.17.6 Quality Control Validation

Establish and maintain the following in a series of 3 ring binders. Binders shall be divided and tabbed as shown below. These binders shall be readily available to the Government's Quality Assurance Team during all business hours.

a. All completed Preparatory and Initial Phase Checklists, arranged by specification section.

b. All milestone inspections, arranged by Activity/Event Number.

c. A current up-to-date copy of the Testing and Plan Log with supporting field test reports, arranged by specification section.

d. Copies of all contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.

e. A current up-to-date copy of the Rework Items List.

f. Maintain up-to-date copies of all punch lists issued by the QC Staff on the Contractor and Sub-Contractors and all punch lists issued by the Government.

1.17.7 Reports from the QC Specialists

Reports are required for each day that work is performed in their area of responsibility. QC specialist reports shall include the same documentation requirements as the Contractor Quality Control Report for their area of responsibility. QC specialist reports are to be prepared, signed and dated by the QC specialists and shall accompany the submission of the Contractor Quality Control Report prepared for the same day.

1.17.8 Testing Plan and Log

As tests are performed, the DQC and/or the QC Manager shall record on the "Testing Plan and Log" the date the test was conducted, the date the test results were forwarded to the Contracting Officer, remarks and acknowledgement that an accredited or Contracting Officer approved testing laboratory was used. Attach a copy of the updated "Testing Plan and Log" to the last daily Contractor Quality Control Report of each month. A copy of the final "Testing Plan and Log" shall be provided to the OMSI preparer for inclusion into the OMSI documentation.

1.17.9 Rework Items List

The QC Manager shall maintain a list of work that does not comply with the Contract, identifying what items need to be reworked, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected. There is no requirement to report a rework item that is corrected the same day it is discovered. Attach a copy of the "Rework Items List" to the last daily Contractor Quality Control Report of each month. The Contractor shall be responsible for including on this list items needing rework including those identified by the Contracting Officer.

1.17.10 As-Built Drawings

The QC Manager is required to ensure the as-built drawings are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. Ensure each deviation has been identified with the appropriate modifying documentation (e.g. PC No., Modification No., Request for Information No., etc.). The QC Manager or QC specialist assigned to an area of responsibility shall initial each deviation and each revision. Upon completion of work, the QC Manager shall furnish a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contracting Officer.

1.17.11 Report Forms

The following forms are acceptable for providing the information required by the paragraph entitled "Documentation." While the use of these specific formats is not required, any other format used shall contain the same information:

a. Contractor Quality Control Report w/ continuation sheet(s).

b. Contractor Production Report w/ continuation sheet(s).

c. Preparatory Phase Checklist.

d. Initial Phase Checklist.

e. Testing Plan and Log.

f. Rework Items List.

The above listed forms can be downloaded from the CCB website. Go to www.ccb.org then

1. Choose Browse CCB Libraries.
2. Choose Specifications Library.
3. Choose NAVFAC Specifications.
4. Choose NAVFAC Specifications graphics.
5. Choose Navy Graphics Table of Contents and then go to the specified Guide Spec and click on the needed graphic/table.

An alternate, more direct address is:

www.ccb.org/docs/NAVGRAPH/01450N.pdf

1.18 NOTIFICATION ON NON-COMPLIANCE

The Contracting Officer will notify the Contractor of any detected non-compliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time for excess costs or damages by the Contractor.

1.19 (Not used)

PART 2 PRODUCTS

(Not used)

PART 3 EXECUTION

(Not used)

-- End of Section--

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

1.1 GENERAL REQUIREMENTS

1.1.1 Area Use Plan

The Contractor shall submit to the Contracting Officer, within twenty (20) calendar days after Notice to Proceed (NTP), an Area Use Plan designating intended use of all areas within the project boundaries. This plan shall include, but not necessarily be limited to the following: the proposed location and dimensions of any area to be fenced and used by the Contractor; construction plant and building installations/the number of trailers and facilities to be used; avenues of ingress/egress to the fenced areas and details of the fence installation; drawings showing temporary electrical installations; temporary water and sewage disposal installations; material storage areas; hazardous storage areas. Any areas which may have to be graveled shall also be identified. The plan shall also include a narrative description of the building structural system, the site utility system; and the office or administration facilities. The Contractor shall also indicate if the use of a supplemental or other staging area is desired. The Contractor shall not begin construction of the mobilization facilities prior to approval by the Contracting Officer of the Area Use Plan described herein.

1.1.2 Identification of Employees

The Bridge construction site intersects the secured Border Zones of two sovereign countries, Afghanistan and Tajikistan. The Contractor shall prevent illegal entry of any person through the construction site to either of the host nations. In part, this will be accomplished with fencing and controlled access to the construction sites.

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer. Issued ID’s shall clearly indicate whether the individual is authorized to exit the border zone (and work site) into Afghanistan, into Tajikistan, or whether the individual is authorized to enter into both Afghanistan and Tajikistan. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

Addition requirements for employee ID cards are given in Section 01060 SPECIAL REQUIREMENTS, Subsection 1.53.1 Employee Identification.

1.1.3 Employee Parking

Contractor employees shall park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with existing and established parking requirements of the border zone area.

1.2 AVAILABILITY AND USE OF UTILITY SERVICES

1.2.1 Payment for Utility Services

The Government is not providing utility services to the site. The contractor shall arrange and pay for any available and desired utility service connections with local agencies.

1.2.2 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meter bases required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired. The Contractor shall arrange with host country utilities companies for payment. The Contractor shall not make the final electrical connection without written permission from the host nation utility.

1.2.3 Advance Deposit (Not used.)

1.2.4 Final Meter Reading (Not used.)

1.2.5 Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer.

Government toilet facilities will not be available to Contractor's personnel.

1.2.6 Telephone

The Contractor shall make arrangements and pay all costs for telephone communications desired.

1.3 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

1.3.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 915 by 1220 mm 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.3.2 Project and Safety Signs

The requirements for the signs, their content, and location shall be as called for in these Specifications. The signs shall be erected within 15 days after receipt of the notice to proceed. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. Upon completion of the project, the signs shall be removed from the site.

1.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

1.4.1 Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

1.4.2 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.5 CONTRACTOR'S TEMPORARY FACILITIES

1.5.1 General

All facilities within the Contractor's mobilization area shall be of substantial construction suitable for the local weather conditions. Sanitary facilities shall meet the requirements of Corps of Engineers, Safety and Health Requirements Manual EM 385-1-1.

1.5.2 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the mobilization area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel. At a minimum, Contractor shall provide the following facility on site:

1.5.2.1 Superintendent’s Office.

The Contractor’s General Superintendent shall have an office for meeting with Corps personnel, visitors, and officials. Signs in English, Tajik/Dari, and Russian should clearly identify the Superintendent’s Office.

1.5.2.2 Quality Control Office

The Contractor shall provide an office (or offices) for the Contractor’s QC Organization. Signs in English, Tajik/Dari, and Russian should clearly identify the Quality Control Office.

1.5.2.3 Safety Office

The Contractor shall provide an office for the Safety Manager and adequate storage for safety equipment, personnel protection equipment, and safety supplies. Signs in English, Tajik/Dari, and Russian should clearly identify the Safety Office.

1.5.2.4 First-Aid/EMT-Paramedic Station Requirements

The Contractor shall provide an office for the Emergency Medical Technician (EMT), a patient area so the EMT can treat minor injuries and ailments, secure storage for First-Aid and other medical supplies and materials, and on-site quarters for the EMT. Signs in English, Tajik/Dari, and Russian should clearly identify the First-Aid Station.

1.5.2.5 Security

The Contractor shall provide an office for the Security Chief, and facilities for the creation and issuance of personnel photo-IDs for employees, and for secure holding of ID materials, equipment, and personnel records. Signs in English, Tajik/Dari, and Russian should clearly identify the Security HQ.

1.5.2.6 Conference Room

The Contractor shall provide a Conference Room or rooms adequate for comfortably seating all attendees of the on-site meetings called for under this Contract.

1.5.2.7 General Access

Under this contract, some files and records are not submitted, but are to be available for Corps review at all times. The contractor must provide a facility for this access. At this facility, the Contractor shall also provide a high speed, duplex copy machine, available for (non-exclusive) Corps use. The Contractor shall maintain copier in good working order at all times and provide adequate toner and paper for the Corps and Contractor personnel to make any desired copies.

1.5.2.8 Contractor Testing Lab and Equipment

The Contractor may elect to establish an on-site testing lab or otherwise use equipment brought on site to conduct tests and make measurements called for under this Contract. Notwithstanding the certifications that might be required, the Contractor shall allow access to and use of said facilities and equipment by Corps personnel for Quality Assurance testing and measurements.

1.5.2.9 Tool Shop, Equipment, and Supplies

In lieu of providing separate tools, equipment, and stores of supplies to the Corps personnel on site, the Contractor may elect to share some resources not typically in full-time use. At minimum, a well-supplied tool box, light power tools, cleaning equipment and supplies, and etc., shall be made available for use by Corps personnel. The Contractor may limit access and/or institute a sign-out procedure for common tools or equipment.

1.5.3 Storage Areas

The Contractor shall construct a temporary 1.8 m 6 foot high chain link fence around storage trailers and stored materials. The fence shall include plastic strip inserts, colored green or brown, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the construction site but within the military boundaries. Trailers, equipment, or materials shall not be open to public view with the exception of those items which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. Mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment, shall be parked within the fenced area at the end of each work day.

1.5.4 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but shall be within the military boundaries. Fencing of materials or equipment will not be required at this site; however, the Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.5.5 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the military property.

1.5.6 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

1.5.7 New Building

In the event a new building is constructed for the temporary project field office, it shall be a minimum 3.6 m 12 feet in width, 5 m 16 feet in length and have a minimum of 2.1 m 7 feet headroom. It shall be equipped with approved electrical wiring, at least one double convenience outlet and the required switches and fuses to provide 110-120 volt power. It shall be provided with a work table with stool, desk with chair, two additional chairs, and one legal size file cabinet that can be locked. The building shall be waterproof, shall be supplied with heater, shall have a minimum of two doors, electric lights, a telephone, a battery operated smoke detector alarm, a sufficient number of adjustable windows for adequate light and ventilation, and a supply of approved drinking water. Approved sanitary facilities shall be furnished. The windows and doors shall be screened and the doors provided with dead bolt type locking devices or a padlock and heavy duty hasp bolted to the door. Door hinge pins shall be non-removable. The windows shall be arranged to open and to be securely fastened from the inside. Glass panels in windows shall be protected by bars or heavy mesh screens to prevent easy access to the building through these panels. In warm weather, air conditioning capable of maintaining the office at 50 percent relative humidity and a room temperature 11 degrees C 20 degrees F below the outside temperature when the outside

temperature is 35 degrees C 95 degrees F, shall be furnished. Any new building erected for a temporary field office shall be maintained by the Contractor during the life of the contract and upon completion and acceptance of the work shall become the property of the Contractor and shall be removed from the site. All charges for telephone service for the temporary field office shall be borne by the Contractor, including long distance charges up to a maximum of $75.00 per month.

1.5.8 Security Provisions

Adequate outside security lighting shall be provided at the contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

1.5.9 Sanitation

a. Sanitary Facilities: The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities in accordance with the requirements of EM 385-1-1 Safety and Health Requirements Manual and approved by the Contracting Officer. Government toilet facilities will not be available to Contractor's personnel.

b. Trash Disposal: The Contractor shall be responsible for collection and disposal of trash from the work areas and from the mobilization area. All trash shall be disposed of off site in accordance with Host Nation requirements. Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Loose debris capable of being windblown, shall be immediately placed in sealed or covered containers to prevent it from being blown onto the river or adjacent property. Any dirt or soil which is tracked onto paved or surfaced roadways shall be cleaned daily. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above. Stored material not indoors, whether new or salvaged, shall be neatly stacked when stored.

1.5.10 Restoration of Storage Area

Upon completion of the project and after removal of mobilization facilities, trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse unpaved areas shall be removed and all such areas restored to their original conditions.

1.6 GOVERNMENT FIELD FACILITIES

The Contractor shall furnish the facilities and services listed in this clause for Corps of Engineers personnel and other persons as designated by the Contracting Officer. All facilities, furnishings, materials,

and equipment shall be new or like new when furnished at the site. The Contractor shall fully maintain and repair all facilities, furnishings and equipment listed below. All facilities furnished and/or installed by the Contractor under this clause shall, at the discretion of the Contracting Officer, remain the property of the Government. All costs for procuring, transporting, installing and replacing all facilities, furnishings, materials, vehicles and equipment shall be included in the contract price for CLIN 0004, “Provide Corps of Engineers Living and Office Facilities.”

The Contractor shall furnish the facilities, furnishings, equipment, and services listed in this clause complete and ready for use by the Government within 60 calendar days from the date of Notice to Proceed. The Contractor shall maintain all utility systems required to support site office and living quarter facilities, provide all bottled water required for site office facility, including potable drinking water and operate and maintain the water system. All water provided will be treated to the degree as directed and approved by the Contracting Officer, provide operation and maintenance of building structure, all furnishings and equipment contained therein, including painting and incidental repairs, provide landscaping and dust control in area adjacent of the office and living quarters, provide vector control services, including insect and rodent control in the areas adjacent of office, provide janitorial services in the office and living quarter facility including cleaning of toilet and shower facility, furnishing of toilet tissue, soap and towels, emptying trash, vacuuming and dusting on a daily basis and all other cleaning of offices and bedrooms on a weekly basis, to the satisfaction of the Contracting Officer, provide replacement parts such as locksets, washers, toilet floats, etc., that will be required for typical building repairs and maintenance, provide replacement toner cartridges for laser printer in the field office. The contractor shall maintain the printer, laptops, copier, cell phones, and provide paper for the printer as required.

All services provided by the Contractor under this clause shall be based on a construction completion date as described in FAR Clause 52.211-10. If the Contractor exceeds this duration at no fault to the Government and when liquidated damages can be applied as defined in Contract Clause entitled LIQUIDATED DAMAGES-CONSTRUCTION, the Contractor will also be responsible to extend all SC-1.22 services at no additional cost to the Government.

1.6.1 Corps of Engineers Office

The contractor shall provide an office for COE use to be located at the jobsite. The office shall include a 150 ft^2 Project Manager’s Office (with desk, office chair, two (2) guest chairs, two (2) lockable file cabinets, a lockable supply cabinet, bookcase, hanging map/drawing file, and dry erase board); a 120 ft^2 Project Engineer’s Office similarly configured, but with a single file cabinet and without the supply cabinet; a minimum 300 ft^2 Common Office area with five (5) desks/work stations, five (5) file cabinets, three (3) book cases, two (2) hanging map/drawing files, and a dry-erase board; a 60 ft^2 Kitchen area with sink and refrigerator/freezer, and microwave oven; a 350 ft^2 Conference Room with table and seating for at least 12 persons and a

dry-erase board, an indoor Toilet/half Bath, and a lockable 80sf Store-room with shelving for supplies and equipment. (File cabinets, file folders, copy and printer normal paper, hanging folders, etc. shall all be sized alike).

All Corps Office shall be heated, air-conditioned, have reliable electrical service and back-up generator sized to accommodate the entire anticipated electrical load for the facilities described herein, and hot and cold running water with sewerage. The Corps Office shall be located on the Tajik Bluff, east of the Bridge Alignment, and overlooking the Bridge site. The Contractor shall provide for a clear, unobstructed view of the bridge site at all times. The Contractor shall also provide for an enclosed (screened) and covered deck or porch (minimum 8'deep x 8' wide), attached to the Corps Office and with a similar view of the Bridge work. Note that the Contractor's Offices for PM, CQC, and Safety should be nearby the Corps Offices.

The COE will install a communication system on site. The Contractor shall provide for a communications room in the COE Office to meet the requirements below:

The communications room size requirement is 10 feet (3.048 m) by 8 feet (2.438 m), or if more appropriate, 3 meters (9 ft, 10 in) by 2.5 meters (8 ft, 2 in). The cabling entrance requirement is one 3 inch conduit with pull string. Conduit is to be trenched from the concrete satellite pad to the outside wall of the communications room. Conduit at satellite pad must be bent (see below) so that opening is pointing down (not up) with at least 12 inches clearance from the pad surface. Conduit enters the communications room above ground. Opening into the communications room should be at 18 inches above communications floor, horizontal entry. Conduit should be one piece, preferably galvanized steel, but if not possible, or if PVC is used, interior must be free of protrusions at the joints to allow smooth, non-cutting surfaces for the wire or fiber optics that will eventually be pulled through. Conduit is to be installed with a pull cord or pull wire. No bends greater than 45 degrees permitted. Each bend must continue through a minimum of 6 inches of straight pipe before the next bend. Conduit must be buried no less than 18 inches, 24 inches if there is a possibly of tank or other heavy equipment passage. Conduit is intended for communications only. If Power is also to be run, it must be in a separate conduit, separated from the communications conduit by a minimum of 4 inches. Power conduit is not specified herein.

Electrical requirements:

a) 100 AMPs Panel, 3 phase, 5 wires, 380 Volts
   2 breakers, 15 Amps, dedicated circuit
   2 breakers, 20 Amps, dedicated circuit
   1 GFI breaker, 20 Amps, sensitive equipment
   1 30 AMPs breaker for AC
   1 breaker, 20 AMPs for lighting
b) AC unit for communications room

All equipment on installation must meet IEC code and NEC code or EURO code Grounding Requirements:

a) Grounding should read less than 0.25 OHMS. Average should be between 0.01 and 0.02 OHMS

b) Material: 4 grounds to be 70 MM2 Euro Code
c) Copper wire No. 4 gage (American gage- I.E.C.Code)
d) One inch heavy conduit from satellite dish to building
e) All metal to be grounded properly

The Government satellite dish shall have an unobstructed view to the south to be secured with sandbags or cement block. Communications shall be wired into the Living Quarters from the office through conduit. COE living quarters and office shall be less than 85 Meters apart for this purpose.

Other furnishings to be included in the office area are: a drafting table, desk lamps, blinds for windows, three (3) heavy duty paper shredders, four (4) laptop computers similar to a Dell Inspiron (minimum system requirements: 2.66 GHz, Pentium IV, 30 GB hard drive), CD/DVD RW drive, network compatible interface, and an infrared mouse. All of the laptops shall be equipped with Microsoft Office Professional Edition, Photo Shop, AutoCAD viewer/printer, and Adobe Acrobat Professional.

1.6.2 Corps of Engineers Quarters

Contractor shall provide housing for 10 people as follows:

2-single bedrooms with individual attached toilet/shower facilities.

4-2 person bedrooms with one public shared toilet/shower rooms with two sinks, toilets, and showers.

Two lockable sink/toilet/shower areas shall be provided. All quarters and office space will be air conditioned and heated. Bedrooms will be equipped with twin beds, with a nightstand, nightstand lamp, small desk, two chairs in each room, and wardrobe for each person. The housing facility shall contain a small kitchenette area with microwave, sink, and refrigerator (Kitchen area is to be equipped with tableware, cookware, linens, etc, typical of an average American home). The housing facility shall contain a laundry room in accordance with Section 1.6.4. The contractor shall be responsible for providing all utilities, daily cleaning, and removal of all waste from the toilet/shower facilities and living quarters. The Contractor shall also provide for a deck or porch outside the living quarters. Outdoor-type furniture will be provided for the deck.

The Contractor shall provide a 500sf Common Room with comfortable seating for ten, with stuffed chairs and sofas, tables, bookcases, a television with satellite receiver, a DVD player; a 60sf kitchen area equipped as above; and a 180 ft^2 PT Room with at least a weight training unit such as a “Bowflex” and a variable speed/resistance treadmill. The Corps Quarters shall be heated, air-conditioned, have reliable electrical service and back-up generator sized to accommodate the entire anticipated electrical load for the facilities described herein, and hot and cold running water with sewerage. The Corps Quarters shall be close proximity to the Corps Office (within 85 meters) inside the Fenced Project Section of the Border Zone.

1.6.3 American-Style Mess Facilities

The Contractor shall provide a Mess Hall and Kitchen Facilities to provide American-Style breakfast and dinner meals with seating for up to ten Government personnel each and every day of the project. In addition, the Contractor shall provide equipment and foodstuff for American-style self-service preparation for lunch and for snacks. Mess hall shall be open all hours between 0600 and 2000. The mess is to always have hot coffee, hot tea, cold water, and cold juice/soda between 0600 and 2000. A lockable vermin-proof storage room shall be provided for consumables. Refrigerated and freezer storage shall be provided with capacity to support the feeding requirements described herein. The mess facilities do not need to be exclusive to Corps personnel and is not restricted to serving only American-Style cuisine. Breakfast and Dinner meals shall be available for appropriate posted periods, not less than ninety (90) minutes each.

1.6.4 Laundry

The Contractor shall provide for laundry service for Corps personnel quartered on the project or shall provide laundry facilities (two washers and two dryers) for Corps personnel to do their own laundry.

1.6.5 Lighted Parking

The contractor shall provide parking for up to four vehicles at or near the offices and quarters called for in this subsection.

1.6.6 Fenced Satellite Pad

Contractor shall establish a lockable, gated fenced area for the Corp’s 1.8 meter satellite dish. Fence shall be 8’ high with anti-climbing feature such as outriggers and barbed wire on top. The satellite area is to be in close proximity to the Corps’ office and quarters.

The Contractor shall install a 13 meter by 13 meter pad to allow for approximate 1,000 pound dish.

1.6.7 Services

a) Contractor shall maintain all utility systems required to support site office and living quarter facilities.

b) Contractor shall provide all bottled water required for quarters and site office facility, including potable drinking water and operate and maintain the water system. All water provided will be treated to the degree as directed and approved by the Contracting Officer.

c) Contractor shall provide operation and maintenance of building structure, all furnishings and equipment contained therein, including painting and incidental repairs.

d) Contractor shall provide landscaping and dust control in area adjacent of the office and living quarters.

e) Contractor shall provide vector control services, including insect and rodent control in the areas adjacent of office.

f) Contractor shall provide janitorial services in the office and living quarter facility including cleaning of toilet and shower facility, furnishing of toilet tissue, soap and towels, emptying trash, vacuuming and dusting on a daily basis and all other cleaning of offices and bedrooms on a weekly basis, to the satisfaction of the Contracting Officer.

g) Contractor shall provide replacement parts such as locksets, washers, toilet floats, etc., that will be required for typical building repairs and maintenance.

1.7 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

1.8 PROJECT SECURITY FENCING

As soon as practicable, early in the mobilization process, the contractor will complete the perimeter security fencing called for in this Section. The security fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

Contractor should note that access to the fenced Russian/Tajik Security Border Zones is restricted. Individual workers and each vehicle must have prior permission to enter the Border Security Zone and even then, may face considerable delays processing through security. The Contractor should allow time for collecting the required information from each worker and concerning each vehicle, and subsequent processing by the authorities in advance of installing the fences require inside the Border Security Zone. Once the required project fencing is installed within the Border Security Zone, access into and out of the project site will devolve to oversight and control by the Contractor.

1.8.1 Fences Inside the Secured Border Zone:

The contractor shall establish two fences across the Border Zone from the bluff overlooking the River to the existing security fence. The western fence shall be 50 meters west of where the proposed access road intersects the existing security fence. The eastern fence shall be 200 meters east of the centerline of the bridge alignment. (See the Site Plan Drawing Sheets, in document “d” referenced in Section 01010 SCOPE OF WORK. Each of these fences shall have a lockable vehicle gate corresponding to the alignment of the dirt road within the Security

Zone and allowing Russian and Tajik Border Guards to Cross the work area and access the Border Zone east and west of the Work Area.

1.8.2 Tajik Worksite Perimeter Fencing

The contractor shall construct a similar fence around the entire Tajik work site with no more than two points of entry and/or exit. This/These entry(s)/exit(s) shall be secured and guarded twenty four hours a day, seven days a week during construction. The Contractor shall insure that no unauthorized persons enter the work site and that no persons, not a citizen of Tajikistan, or a properly documented visitor (Passport stamped as entered Tajikistan), or person otherwise authorized to be in Tajikistan (as say a Department of Defense employee or contractors with ID under the Status of Forces Agreement (SOFA) between the U.S. and Tajikistan) enters Tajikistan through the work site.

1.8.3 Border Zone Access

After installing the fences called for in Subsections 1.8.1 and 1.8.2 above, the Contractor shall install vehicle and pedestrian gates in the Border Zone Fence between the area fenced off in the Border Zone (per Subsection 1.8.1) and the area fenced off for the project work site (per Subsection1.8.2). These gates can be open during daylight working hours, but must be closed and only opened by guards during non-work hours.

1.8.4 Road Alignment

The Contractor shall be allowed to make a larger opening in the Border Zone fence to construct the required approach road. However, the opening shall be closed and secured during non-work hours and entry and exit through the opening shall be limited to those absolutely necessary and restricted as other exits. A similar, but non-concurrent, opening will be allowed in the work area perimeter fence for the construction of the approach road. Likewise that opening would be closed and secure at non-working hours and guarded 24 hours a day, seven days a week.

1.8.5 Afghan Worksite Perimeter Fencing

There is no equivalent Border Zone on the Afghan side of the River. The Contractor shall fence the required work area on the Afghan side as in paragraph b) above and insure that no unauthorized persons enter the project site, or enter Afghanistan via the project site.

1.8.6 Fence Requirements

All fences in this subsection are to be the height, material, configuration of the existing Tajik Border Zone fence. Any variation must be approved in advance by the Contracting Officer. The Area Use Plan must be approved before fencing work is started.

1.9 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.10 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

-- End of Section --

SECTION 01525

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z359.1 (1992; R 1999) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

ASME INTERNATIONAL (ASME)

ASME B30.3 (1996) Construction Tower Cranes
ASME B30.22 (2000) Articulating Boom Cranes

ASME B30.5 (2000) Mobile and Locomotive Cranes
ASME B30.8 (2000) Floating Cranes and Floating Derricks

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10 (2002) Portable Fire Extinguishers
NFPA 241 (2000) Safeguarding Construction, Alteration, and Demolition Operations
NFPA 51B (2003) Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70 (2002) National Electrical Code

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2004) Safety -- Safety and Health Requirements

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910 Occupational Safety and Health Standards
29 CFR 1910.146 Permit-required Confined Spaces
29 CFR 1910.94 Ventilation
29 CFR 1919 Gear Certification
29 CFR 1926 Safety and Health Regulations for Construction
29 CFR 1926.500 Fall Protection

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only (FIO). When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECT:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G
Activity Hazard Analysis (AHA); G
Crane Critical Lift Plan; G
Crane Work Plan; G
Proof of qualification for Crane Operators; G
Fall Protection Plan; G
Communication Plan; G
Evacuation Plan; G
Medical Technician/Medical Equipment Plan; G

SD-06 Test Reports

Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports
Monthly Exposure Reports
Regulatory Citations and Violations
Crane Reports

SD-07 Certificates

Confined Space Entry Permit
Certificate of Compliance (Crane)]
Third Party Certification of Barge-Mounted Mobile Cranes

Submit one copy of each certificate attached to each Daily Quality Control Report.

1.3 DEFINITIONS

a. Associate Safety Professional (ASP). An individual who is currently certified as an ASP by the Board of Certified Safety Professionals.

b. Certified Construction Health & Safety Technician (CHST). An individual who is currently certified as a CHST by the Board of Certified Safety Professionals.

c. Certified Industrial Hygienist (CIH). An individual who is currently certified as a CIH by the American Board of Industrial Hygiene.

d. Certified Safety Professional (CSP). An individual who is currently certified as a CSP by the Board of Certified Safety Professionals.

e. Certified Safety Trained Supervisor (STS). An individual who is currently certified as an STS by the Board of Certified Safety Professionals.

f. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.

g. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.
h. Low-slope roof. A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

i. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

j. Multi-Employer Work Site (MEWS). A multi-employer work site, as defined by OSHA, is one in which many employers occupy the same site. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors.

k. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).

l. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, extensive knowledge, training and experience in the field of fall protection who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.

m. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

(1) Death, regardless of the time between the injury and death, or the length of the illness;
(2) Days away from work;
(3) Restricted work;
(4) Transfer to another job;
(5) Medical treatment beyond first aid;
(6) Loss of consciousness; or
(7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

n. Site Safety and Health Officer (SSHO). The superintendent or other qualified or competent person who is responsible for the on-site safety and health required for the project. The Contractor quality control (QC) person cannot be the SSHO, even though the QC has safety inspection responsibilities as part of the QC duties.

o. Steep roof. A roof having a slope greater than 4 in 12 (vertical to horizontal).

p. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

q. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure

results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.4 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, work performed shall comply with USACE EM 385-1-1. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 DRUG PREVENTION PROGRAM

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employee uses illegal drugs or consumes alcohol during work hours. Ensure there are no employees under the influence of drugs or alcohol during work hours.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor. The SSHO shall meet the following requirements:

Level 4:

A minimum of 10 years safety work of a progressive nature with at least 5 years of experience on similar projects.

30-hour OSHA construction safety class or equivalent within the last 5 years.

An average of at least 24 hours of formal safety training each year for the past 5 years with training for competent person status for at least the following [4] areas of competency:

Excavation; Scaffolding; Fall protection; Hazardous energy; Confined space; Health hazard recognition, evaluation and control of chemical, physical and biological agents; Personal protective equipment and clothing to include selection, use and maintenance

1.6.1.2 Not used.

1.6.1.3 Not used.

1.6.1.4 Not used.

1.6.1.5 Not used.

1.6.1.6 Crane Operators

Crane operators shall meet the requirements in USACE EM 385-1-1, Section 16 and Appendix G. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacitates of 50,000 pounds or greater, crane operators shall be designated as qualified by a source that qualifies crane operators (i.e., union, a government agency, or and organization that tests and qualifies crane operators). Proof of current qualification shall be provided.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)/Superintendent

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors' daily [production][quality control] report.

b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime- and sub-contractors.

c. Maintain applicable safety reference material on the job site.

d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.

e. Implement and enforce accepted APPS and AHAs.

f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.

g. Ensure sub-contractor compliance with safety and health requirements. Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. The Contractor will be informed, in writing, of the date of the preconstruction conference. The purpose of the preconstruction conference is for the Contractor and the Contracting Officer's representatives to become acquainted and explain the functions and operating procedures of their respective organizations and to reach mutual understanding relative to the administration of the overall project's Accident Prevention Plan (APP) before the initiation of work.

b. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

c. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.

d. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.

e. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

1.6.3.2 Weekly Safety Meetings

Conduct weekly safety meetings at the project site for all employees. The Contracting Officer will be informed of the meeting in advance and be allowed attendance. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily [production] [quality control] report.

1.6.3.3 Work Phase Meetings

The appropriate AHA shall be reviewed and attendance documented by the Contractor at the preparatory, initial, and follow-up phases of quality control inspection. The analysis should be used during daily inspections to ensure the implementation and effectiveness of safety and health controls.

1.7 TRAINING

1.7.1 New Employee Indoctrination

New employees (prime and sub-contractor) will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

1.7.2 Periodic Training

Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the accepted APP. Ensure all required training has been accomplished for all onsite employees.

1.7.3 Training on Activity Hazard Analysis (AHA)

Prior to beginning a new phase, training will be provided to all affected employees to include a review of the AHA to be implemented.

1.8 ACCIDENT PREVENTION PLAN (APP)

The Contractor shall use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Preparation of Accident Prevention Plan". Where a paragraph or subparagraph element is not applicable to the work to be performed indicate "Not Applicable" next to the heading. Specific requirements for some of the APP elements are described below at paragraph

1.8.1. The APP shall be job-specific and shall address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program.

Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and any designated CSP and/or CIH.

Submit the APP to the Contracting Officer fifteen (15) calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. The Contracting Officer

reviews and comments on the Contractor's submitted APP and accepts it when it meets the requirements of the contract provisions. Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and quality control manager. Should any unforeseen hazard become evident during the performance of work, the project superintendent shall inform the Contracting Officer, both verbally and in writing, for resolution as soon as possible. In the interim, all necessary action shall be taken by the Contractor to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment.

Copies of the accepted plan will be maintained at the Contracting Officer's office, at the Resident Engineer's office, and at the job site. The current accepted APP shall also be uploaded and available at the project FTP site. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.

1.8.1 EM 385-1-1 Contents

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required:

a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated site safety and health officer and other competent and qualified personnel to be used such as CSPs, CIHs, STSs, CHSTs. The duties of each position shall be specified.

b. Qualifications of competent and of qualified persons. As a minimum, competent persons shall be designated and qualifications submitted for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.

c. Confined Space Entry Plan. Develop a confined space entry plan in accordance with USACE EM 385-1-1, applicable OSHA standards 29 CFR 910, 29 CFR 1915, and 29 CFR 1926, and any other federal, state and local regulatory requirements identified in this contract. Provide the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders.

d. Health Hazard Control Program. The Contractor shall designate a competent and qualified person to establish and oversee a Health Hazard Control Program in accordance with USACE EM 385-1-1, Section 6. The program shall ensure that employees, on-site Government representatives, and others, are not adversely exposed to chemical, physical and biological agents and that necessary controls and protective actions are instituted to ensure health.

e. Crane Critical Lift Plan. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall be submitted 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.c.18 and the following:

(1) For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.550(g).
(2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.

f. Alcohol and Drug Abuse Plan

(1) Describe plan for random checks and testing with pre-employment screening in accordance with the DFAR Clause subpart 252.223-7004, "Drug Free Work Force."
(2) Description of the on-site prevention program

g. Fall Protection and Prevention (FP&P) Plan. (*Note: the FP&P Plan is submitted to and approved by the Contracting Officer separate from the APP, then the approved FP&P Plan is incorporated into the APP.*) The FP&P plan shall be site specific and address all fall hazards in the work place and during different phases of construction. It shall address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m (6 feet). A qualified person for fall protection shall prepare and sign the plan. The plan shall include fall protection and prevention systems, equipment and methods employed for every phase of work, responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Fall Protection and Prevention Plan shall be revised every six months for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. The accepted Fall Protection and Prevention Plan shall be kept and maintained at the job site for the duration of the project. The Fall Protection and Prevention Plan shall be included in the Accident Prevention Plan (APP).

h. Training Records and Requirements. List of mandatory training and certifications which are applicable to this project (e.g.

explosive actuated tools, confined space entry, fall protection, crane operation, vehicle operator, forklift operators, personal protective equipment); list of requirements for periodic retraining/certification; outline requirements for supervisory and employee safety meetings.

i. Excavation Plan. Provide methods and means of evacuating injured or ill personnel to the nearest facility capable of caring for said injury or illness. (*Note: the FP&P Plan is submitted to and approved by the Contracting Officer separate from the APP, then the approved FP&P Plan is incorporated into the APP.*)

j. Crane Work Plan. The contractor shall provide a crane work plan to the Contracting Officer for acceptance. The crane work plan shall include the specific model of each crane and a drawing identifying their locations (exact), the dimensions, wheel sizes, number of wheels, wheel spacing, tire pressure(s), number of axles, axle spacing, minimum wheel load to be exerted during operations and maximum outrigger load to be exerted during operations. The Contractor shall allow at least 10 working days for acceptance/non-acceptance of the crane work plan. No crane operations shall begin prior to written acceptance of the crane work plan by the Government.

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1. Submit the AHA for review at least 10 calendar days prior to the start of each phase. Format subsequent AHA as amendments to the APP. An AHA will be developed by the Contractor for every operation involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform work. The analysis must identify and evaluate hazards and outline the proposed methods and techniques for the safe completion of each phase of work. At a minimum, define activity being performed, sequence of work, specific safety and health hazards anticipated, control measures (to include personal protective equipment) to eliminate or reduce each hazard to acceptable levels, equipment to be used, inspection requirements, training requirements for all involved, and the competent person in charge of that phase of work. For work with fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall protection methods used. For work with materials handling equipment, address safeguarding measures related to materials handling equipment. For work requiring excavations, include requirements for safeguarding excavations. An activity requiring an AHA shall not proceed until the AHA has been accepted by the Contracting Officer's representative and a meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activity, including on-site Government representatives. The Contractor shall document meeting attendance at the preparatory, initial, and follow-up phases of quality control inspection. The AHA shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations. The analysis should be used during daily inspections to

ensure the implementation and effectiveness of the activity's safety and health controls. The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change. Activity hazard analyses shall be updated as necessary to provide an effective response to changing work conditions and activities. The on-site superintendent, site safety and health officer and competent persons used to develop the AHAs, including updates, shall sign and date the AHAs before they are implemented.

The activity hazard analyses shall be developed using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.]

1.10 DISPLAY OF SAFETY INFORMATION

Within ten (10) calendar days after commencement of work at the site, erect a safety bulletin board at the job site. The following information shall be displayed on the safety bulletin board in clear view of the on-site construction personnel, maintained current, and protected against the elements and unauthorized removal:

a. Map denoting the route to the nearest emergency care facility.

b. Emergency contacts and procedures.

c. Copy of the most up-to-date APP.

d. Current AHA(s).

e. OSHA 300A Form.

f. OSHA Safety and Health Protection-On-The-Job Poster.

g. Confined space entry permit. (if applicable).

h. Hot work permit. (if applicable)

i. A sign indicating the number of hours worked since last lost workday accident.

j. Safety and Health Warning Posters.

All the above information must be posted in English and in Tajik for this project.

1.11 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.12 EMERGENCY MEDICAL TREATMENT

1.12.1 General Requirements

The project site is isolated from any reasonable nearby medical services and therefore the Contractor will arrange for Emergency Medical Treatment. At minimum, the Contractor shall provide an Emergency Medical Technician-Paramedic (EMT-Paramedic) to be at the project site at all times. The EMT-Paramedic may have other assigned duties but EMT duties will take precedence. When the EMT-Paramedic is to be absent from the Project Site, an alternate EMT-Paramedic will be provided. If the Contracting Officer becomes dissatisfied with the performance of the EMT-Paramedic or the Alternate, or determines that either is incapable of performing the requirements given in this section, the Contractor shall immediately replace the said individual with one approved by the Contracting Officer.

The Contractor shall also provide an on-site EMT-Paramedic Treatment Station. See Section 01500 TEMPORARY CONSTRUCTION FACILITIES, Subsection 1.5.2.4 EMT-Paramedic Treatment Station Requirements.

Within 30 days of NTP, the Contractor shall submit for Approval, the EMT-Paramedic and the Alternate, showing registration, training, and experience; and submit a plan for equipping and supplying the EMT-Paramedic Station, including a listing of equipment, supplies, and medicines.

1.12.2 EMT-Paramedic Qualifications

The EMT-Paramedic shall be a state or nationally registered paramedic with certification from the USA, UK, Australia, or South Africa; have (at the minimum) American Heart Association (or equivalent) certification in Advanced Cardiac Life Support; and have Pre-Hospital Trauma Life Support or Basis Trauma Life Support Training. The EMT-Paramedic shall have a minimum of three years experience in a 911-type emergency response system and at least two years experience in remote or hostile environments or at least two years as a military medic. Required skills include, but are not limited to: Diagnosis and treatment of routine medical problems including ENT, GI, skin, and neurological complaints; antibiotic therapy; wound care and suturing, abscess drainage, treatment of eye injuries; diagnosis and temporary care of dental problems, and treatment of all medical or trauma emergencies. In addition to English, the EMT-Paramedic shall be able to communicate in either Russian and/or Tajik/Dari. The EMT-Paramedic shall be equipped to perform all EMT paramedic functions. The EMT-Paramedic must be under the direction of a licensed medical doctor (medical control) using either offline medical direction (protocols) or telephone/e-mail consultation.

1.12.3 EMT-Paramedic Capabilities

The EMT-Paramedic at a minimum shall be capable of the following:

a. In the absence of security enforcement, create a safe environment for the protection of the injured and those assisting in the care of patient(s).

b. Determine the nature and extent of illness or injury, take pulses, blood pressure by auscultation palpation, visually observe changes in skin color, and establish a priority for emergency care. Based on assessment findings, render emergency care first to those most in need.

c. Establish and maintain an airway, ventilate patients, perform cardiac resuscitation, use external defibrillators and pacemakers, provide pre-hospital emergency care of single and multiple system trauma such as controlling hemorrhage, treatment of shock (hypoperfusion), bandaging wounds, and immobilization of painful swollen and deformed extremities.

d. Manage medical patients to include assisting in management of respiratory, cardiac, diabetic, allergic, behavioral and environmental emergencies, and suspected poisonings.

e. Search for medical identification emblems, bracelets, or cards that provide emergency care information. Additional care is provided based on assessment of the patient and obtaining past medical information.

f. Administer both routine and emergency drug therapy.

g. Assist patients with prescribed medications including sublingual nitroglycerine, epinephrine auto injectors, and hand-held aerosol inhalers.

h. Administer oxygen, oral glucose, activated charcoal, etc.

i. Reassure patients and bystanders by working in a confident, efficient manner and avoid mishandling patients and undue haste while working expeditiously.

j. Where extrication is required, assess the extent of injury and give all possible emergency care and protection to the patient. Use recognized techniques and equipment to remove patients safely.

k. Following extrication, provide additional medical care and triage injured victims in accordance with standard emergency procedures.

l. Comply with military regulations on the handling of crime scenes and pre-hospital death by notifying appropriate authorities and arrange for protection of property and evidence.

m. Carry and lift the stretcher, placing it in the ambulance or other personnel transportation vehicle and see that the patient and stretcher are secured. Continue care *en route* to the appropriate facility.

n. Determine the most appropriate facility for patient transport unless otherwise directed by medical control. Report the nature and

extent of injuries, the number of patients being transported, and the destination of patients to ensure prompt medical care in accordance with local protocols.

o. Observe and reassess the patient *en route*, and administer care as directed by medical control. Assist with lifting and moving the patient and appropriate equipment from the ambulance into the emergency facility.

p. Report verbally and in writing, observations and emergency treatment given to the patient, at the scene and in transit, to the receiving staff for record keeping and diagnostic purposes. Upon request, provide assistance to the receiving facility staff.

q. After completion of the response, restock and replace care supplies, clean all equipment following appropriate decontamination and cleaning procedures, make careful examination of all equipment to ensure availability for the next call.

1.12.4 Required equipment (minimum):

a. General tool box
b. Vacuum splints
c. Large prybar
d. Portable stretcher
e. Straps
f. Soft tissue supplies
g. Long board splints
h. Vacuum mattress
i. Manual Defibrillator with external pacemaker
j. XP-1 (extrication device)
k. Scoop stretcher
l. C-collars
m. 10lb. ABC fire extinguisher
n. Mast trousers
o. Blood pressure cuff and stethoscope
p. Pulse oximeter
q. First aid Paramedic trauma kit
r. Autovent automatic transport ventilator or equivalent
s. 12 Lead ECG machine or module
t. Traction splint
u. Portable suction machine
v. Multi-casualty incident bag and triage kit

1.12.5 Suggested Supplies and Medicines:

The following medications are required as a minimum in large part due to the remoteness of the worksite and the time that it would take to transport a sick or injured person to more sophisticated facilities. The Government recognizes that not all supplies or all medications will be available all EMT-Paramedics not working closely with a licensed physician. The Contractor should submit their proposed list of supplies and medications with their Medical Technician/Medical Equipment Plan.

Activated charcoal with sorbital
Oral glucose
Acetylsalicylic Acid (aspirin) chewable
Albuterol (Proventil)
25% Dextrose injection- [remove this, it is not standard and 50% dextrose is all that is necessary]
50% Dextrose injection
Diphenhydramine hydrochloride (Benadryl)
Epinephrine, 1:1,000
Epinephrine, 1:10,000
Glucagon
Naloxone hydrochloride (Narcan)
Normal saline IV solution
Oral glucose
Sodium Chloride Flush
Sterile water (injectable)
Morphine Sulphate
Diazepam
Midazolam
Rocephin
Adenosine
Lidocaine
Ringers Lactate solution
t-PA thrombolytic injection
Dopamine
Atropine
Calcium
Furosemide inj/tablets
Mannitol
Verapamil
Adenosine
Amiodarone
Metclopramide
Solu-medrol
Heparin
Antifungal cream
Acyclovir tabs
Claritin
Erythromycin tabs
Ciprofloxacin tabs
Ibuprofen
Cold and Flu remedy
Amoxicillian tabs
Metronidazole tabs
Tetracaine
Zantac inj/tabs
Anectine
Pancuronium
Tetanus toxoid
Etomidate

1.13 REPORTS

1.13.1 Accident Reports

a. For recordable injuries and illnesses, and property damage accidents resulting in at least $2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the USACE Accident Report Form 3394 and provide the report to the Contracting Officer within 2 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.

b. For any weight handling equipment accident (including rigging gear accidents) the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The Contracting Officer will provide a blank copy of the accident report form.

1.13.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than $2,000, or any weight handling equipment accident. Information shall include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.13.3 Monthly Exposure Reports

Monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

1.13.4 Regulatory Citations and Violations

Contact the Contracting Officer immediately of any OSHA or other regulatory agency inspection or visit, and provide the Contracting Officer with a copy of each citation, report, and contractor response. Correct violations and citations promptly and provide written corrective actions to the Contracting Officer.

1.13.5 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix H and as specified herein with Daily Reports of Inspections.

1.13.6 Certificate of Compliance

The Contractor shall provide a Certificate of Compliance for each crane entering an activity under this contract (see Contracting Officer for a blank certificate). Certificate shall state that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance shall comply with 29 CFR 1926 and USACE EM 385-1-1 section 16 and Appendix H. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. The Contractor shall certify that the crane and rigging gear conform to the appropriate host country safety standards. The Contractor shall also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices). These certifications shall be posted on the crane.

1.13.7 Third Party Certification of Barge-Mounted Mobile Cranes

Barge-mounted mobile cranes shall be certified in accordance with 29 CFR 1919 by an OSHA accredited person.

1.14 HOT WORK

The Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.

a. Oil painting materials (paint, brushes, empty paint cans, etc.), and all flammable liquids shall be removed from the facility at quitting time. All painting materials and flammable liquids shall be stored outside in a suitable metal locker or box and will require re-submittal with non-hazardous materials.

b. Accumulation of trays, paper, shavings, sawdust, boxes and other packing materials shall be removed from the facility at the close of each workday and such material disposed of in the proper containers located away from the facility.

c. The storage of combustible supplies shall be a safe distance from structures.

d. Area outside the facility undergoing work shall be cleaned of trash, paper, or other discarded combustibles at the close of each workday.

e. All portable electric devices (saws, sanders, compressors, extension chord, lights, etc.) shall be disconnected at the close of each workday. When possible, the main electric switch in the facility shall be deactivated.

f. When starting hot work, Contractors shall require their personnel to familiarize themselves with the location of the fire suppression equipment, proper use of fire suppression equipment, and fire emergency reporting procedures and alarms.

g. Obtain services from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems, welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, vaults, etc.) that have the potential for flammable or explosive atmospheres.]

1.15 COMMUNICATION

From the base-camp on the bluff overlooking the river, construction activities may occur more than a kilometer in each direction along the proposed alignment. The contractor shall develop a means of two-way communication with all actively worked areas of the project site. Workers need to be able to report injuries and receive information concerning security or other matters. Within 30 days of NTP, the Contractor shall submit a plan for establishing (at a minimum) effective two-way with all work crews on the site. Construction work shall not begin until the Communication Plan has been approved by the Contracting Officer and the Contractor has implemented the Plan. The Corps Representatives on site must be included in any communications system developed.

PART 2 PRODUCTS

2.1 CONFINED SPACE SIGNAGE

The Contractor shall provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER - " in bold letters a minimum of 25 mm (one inch) in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 1.52 m (5 feet).

2.2 FALL PROTECTION ANCHORAGE

Fall protection anchorage, conforming to ANSI Z359.1, installed under the supervision of a qualified person in fall protection, shall be left in place for continued customer use and so identified by signage stating the capacity of the anchorage (strength and number of persons who may be tied-off to it at any one time).

PART 3 EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

The Contractor shall comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, and applicable host nation regulations, and other related submittals and activity fire and safety regulations. The most stringent standard shall prevail.

3.1.1 Hazardous Material Use

Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material. Any work or storage involving hazardous chemicals or materials must be done in a manner that will not expose Government or Contractor employees to any unsafe or unhealthful conditions. Adequate protective measures must be taken to prevent Government or Contractor employees from being exposed to any hazardous condition that could result from the work or storage. The Prime Contractor shall keep a complete inventory of hazardous materials brought onto the work-site. Approval by the Contracting Officer of protective measures and storage area is required prior to the start of the work.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor may consider exceptions to the use of any of the above excluded materials.

3.1.3 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If [additional] material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Contractors are required to apply for utility outages at least 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests

are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the Contracting Officer and local utility officials to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and escape procedures.

3.3.1 Training

The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards. A competent person for fall protection shall provide the training. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.A.16.

3.3.2 Fall Protection Equipment

The Contractor shall enforce use of the fall protection equipment designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is on a surface 1.8 m (6 feet) or more above lower levels. Fall protection systems such as guardrails, personnel fall arrest system, safety nets, etc., are required when working within 1.8m (6 feet) of any leading edge. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, paragraphs 05.I. and 05.J. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M and USACE EM 385-1-1.

3.3.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest device. Body belts may only be used as a positioning device

system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m (6 feet). The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.3.2.2 Harness Use.

Dorsal D-ring must be centered over the spine, not more than four (4") inches below the shoulder line. The dorsal D-ring shall be the only attachment point for a fall protection device. In addition:

a. Front pants pockets shall be empty. Anything in a pocket may be forced into the crotch and pierce the femoral artery. If the femoral artery is pierced, you can bleed to death in about four (4) minutes.

b. Leg straps shall be fitted snuggly to the crotch. The force of a loose strap sliding up in a fall will likely injure external genitalia.

c. Waist belt shall be snug.

d. Harness shall be worn outside of all clothing. Lanyard must always free to support you directly, without the interference of clothing

d. Shoulder straps shall be snug.

e. When adjusting straps, bend knees and back. Upon standing straight the straps should fit snugly.

f. If used, the Retractable Life Line (vertical) shall always be connected directly to the dorsal D-ring. Never wear a lanyard between a harness and a retractable life line.

g. Unless connected to a retractable life line, the lanyard shall always be connected to the fall protection device.

h. "Y" lanyards shall be used to allow clipping around obstructions and switching from fall protection device to fall protection device.

i. Harnesses and lanyards may not be used as a work positioning device.

3.3.3 Fall Protection for Roofing Work (not used).

3.3.4 Safety Nets

If safety nets are used as the selected fall protection system on the project, they shall be provided at unguarded work places, leading edge work or when working over water, machinery, dangerous operations or

other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, fall arrest systems or restraint/positioning systems are impractical. Safety nets shall be tested immediately after installation with a drop test of 181.4 kg (400 pounds) dropped from the same elevation a person might fall, and every six months thereafter.

3.3.5 Existing Anchorage

Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person for fall protection in accordance with ANSI Z359.1. Exiting horizontal lifeline anchorages shall be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.

3.3.6 Horizontal Lifelines

Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

3.3.7 Guardrail Systems

Guardrails shall consist of top and mid-rails, post and toe boards. The top edge height of standard railing must be 42 inches plus or minus 3 inches above the walking/working level. When mid-rails are used, they must be installed at a height midway between the top edge of the guardrail system and the walking/working level. Posts shall be placed no more than 8 feet apart (29 CFR 1926.500 and USACE EM 385-1-1).

3.3.8 Rescue and Evacuation Procedures

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. A Rescue and Evacuation Plan shall be prepared by the contractor and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. The Rescue and Evacuation Plan shall be included in the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

3.4 Not used.

3.5 SCAFFOLDING

Employees shall be provided with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access to scaffold platforms greater than 6 m (20 feet) in height shall be accessed by use of a scaffold stair system. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold

platforms greater than 6 m (20 feet) in height. The use of an adequate gate is required. Contractor shall ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Work platforms shall be placed on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.6 EQUIPMENT

3.6.1 Material Handling Equipment

a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.

c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.6.2 Weight Handling Equipment

a. Cranes must be equipped with:
   (1) Load indicating devices (LIDs) and a boom angle or radius indicator,
   (2) or load moment indicating devices (LMIs).
   (3) Anti-two block prevention devices.
   (4) Boom hoist hydraulic relief valve, disconnect, or shutoff (stops hoist when boom reaches a predetermined high angle).
   (5) Boom length indicator (for telescoping booms).
   (6) Device to prevent uncontrolled lowering of a telescoping hydraulic boom.
   (7) Device to prevent uncontrolled retraction of a telescoping hydraulic boom.
   (8) Wind indicating device.
   (9) Drum rotation indicator.
   (10) Barge mounted mobile cranes shall be equipped with a load indicating device, a wind indicating device and a

marine type list and trim indicator readable in one-half degree increments.

b. The Contractor shall notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.

c. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.

d. The Contractor shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes and floating derricks.

e. The presence of Government personnel does not relieve the Contractor of an obligation to comply with all applicable safety regulations. The Government will investigate all complaints of unsafe or unhealthful working conditions received in writing from contractor employees, federal civilian employees, or military personnel.

f. Each load shall be rigged/attached independently to the hook/master-link in such a fashion that the load cannot slide or otherwise become detached. Christmas-tree lifting (multiple rigged materials) is not allowed.

g. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.

h. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.

i. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.

j. A fire extinguisher having a minimum rating of 10BC and a minimum nominal capacity of 5lb of extinguishing agent shall be available at all operator stations or crane cabs. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.

k. All employees shall be kept clear of loads about to be lifted and of suspended loads.

l. A weight handling equipment operator shall not leave his position at the controls while a load is suspended.

m. The Contractor shall use cribbing when performing lifts on outriggers.

n. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

o. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.

p. A substantial and durable rating chart containing legible letters and figures shall be provided with each crane and securely mounted onto the crane cab in a location allowing easy reading by the operator while seated in the control station.

q. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.

r. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.

s. The Contractor shall certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

3.6.3 Equipment and Mechanized Equipment

a. Equipment shall be operated by designated qualified operators. Proof of qualifications shall be kept on the project site for review.

b. Manufacture specifications or owners manual for the equipment shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Such additional safety precautions or requirements shall be incorporated into the AHAs.

c. Equipment and mechanized equipment shall be inspected in accordance with manufacturer's recommendations for safe operation by a competent person prior to being placed into use.

d. Daily checks or tests shall be conducted and documented on equipment and mechanized equipment by designated competent persons.

3.7 EXCAVATIONS

The competent person for excavations performed as a result of contract work shall be on-site when excavation work is being performed, and

shall inspect, and document the excavations daily prior to entry by workers. The competent person must evaluate all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly. The competent person shall perform soil classification in accordance with 29 CFR 1926.

3.7.1 Utility Locations

Prior to digging, the appropriate digging permit must be obtained. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract.

3.7.2 Utility Location Verification

The Contractor must physically verify underground utility locations by and digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within 0.061 m (2 feet) of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility the utility shall be exposed by hand digging every 30.5 m (100 feet) if parallel within 1.5 m (5 feet) of the excavation.

3.7.3 Utilities with Concrete Slabs

Utilities located within concrete slabs or pier decks, bridges, and the like are extremely difficult to identify. The location must be coordinated with local utility departments in addition to a private locating service. Outages on system utilities shall be used in circumstances where concrete chipping, saw cutting, or core drilling is required and utilities are unable to be completely identified.

3.7.4 Shoring Systems

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacture tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on-site for review. Job-made shoring or shielding shall have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

3.7.5 Trenching Machinery

Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator. Operator and spotters/laborers shall be provided training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating. Documentation of the training shall be kept on file at the project site.

3.8 ELECTRICAL

3.8.1 Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA.

3.8.2 Portable Extension Cords

Portable extension cords shall be sized in accordance with manufacturer ratings for the tool to be powered and protected from damage. All damaged extension cords shall be immediately removed from service. Portable extension cords shall meet the requirements of NFPA 70.

3.9 WORK IN CONFINED SPACES

The Contractor shall comply with the requirements in Section 06.I of USACE EM 385-1-1 and OSHA 29 CFR 1910.146. Any potential for a hazard in the confined space requires a permit system to be used.

a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 06.I.05 of USACE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.

b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must

be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.

c. Ensure the use of rescue and retrieval devices in confined spaces greater than 1.5 m (5 feet) in depth. Conform to Sections 06.I.09, 06.I.10 and 06.I.11 of USACE EM 385-1-1.

d. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

e. Include training information for employees who will be involved as entrants and attendants for the work. Conform to Section 06.I.06 of USACE EM 385-1-1.

f. Daily Entry Permit. Post the permit in a conspicuous place close to the confined space entrance.

3.10 CRYSTALLINE SILICA

Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with OSHA regulations, such as 29 CFR 1910.94, and USACE EM 385-1-1, Appendix C. The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

3.11 HOUSEKEEPING

3.11.1 Clean-Up

All debris in work areas shall be cleaned up daily or more frequently if necessary. Construction debris may be temporarily located in an approved location; however garbage accumulation must be removed each day.

3.11.2 Falling Object Protection

All areas must be barricaded to safeguard employees. When working overhead, Barricade the area below to prevent entry by unauthorized employees. Construction warning tape and signs shall be posted so they are clearly visible from all possible access points. When employees are working overhead all tools and equipment shall be secured so that they will not fall. When using guardrail as falling object protection, all openings shall be small enough to prevent passage of potential falling objects.

-- End of Section --